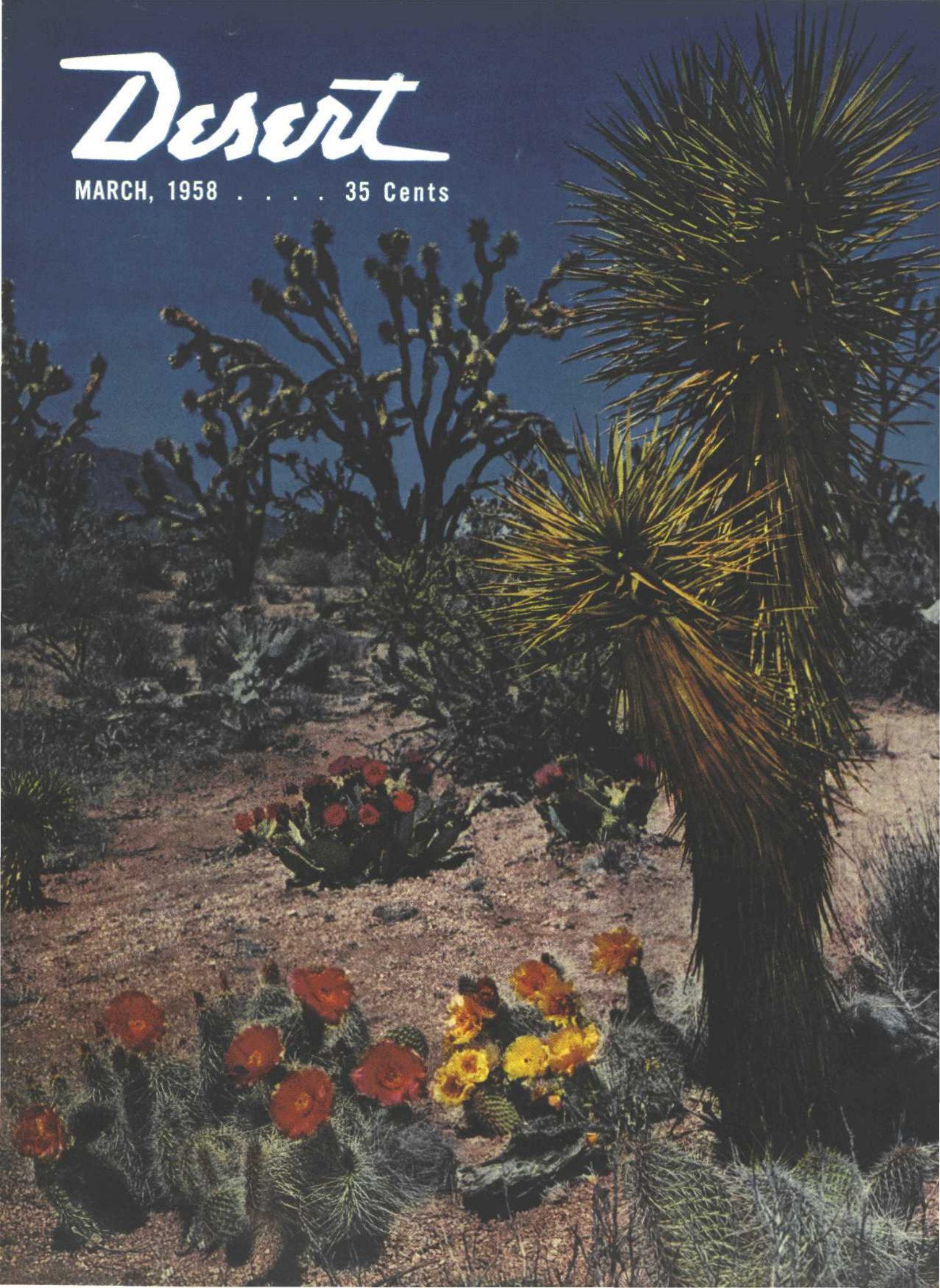
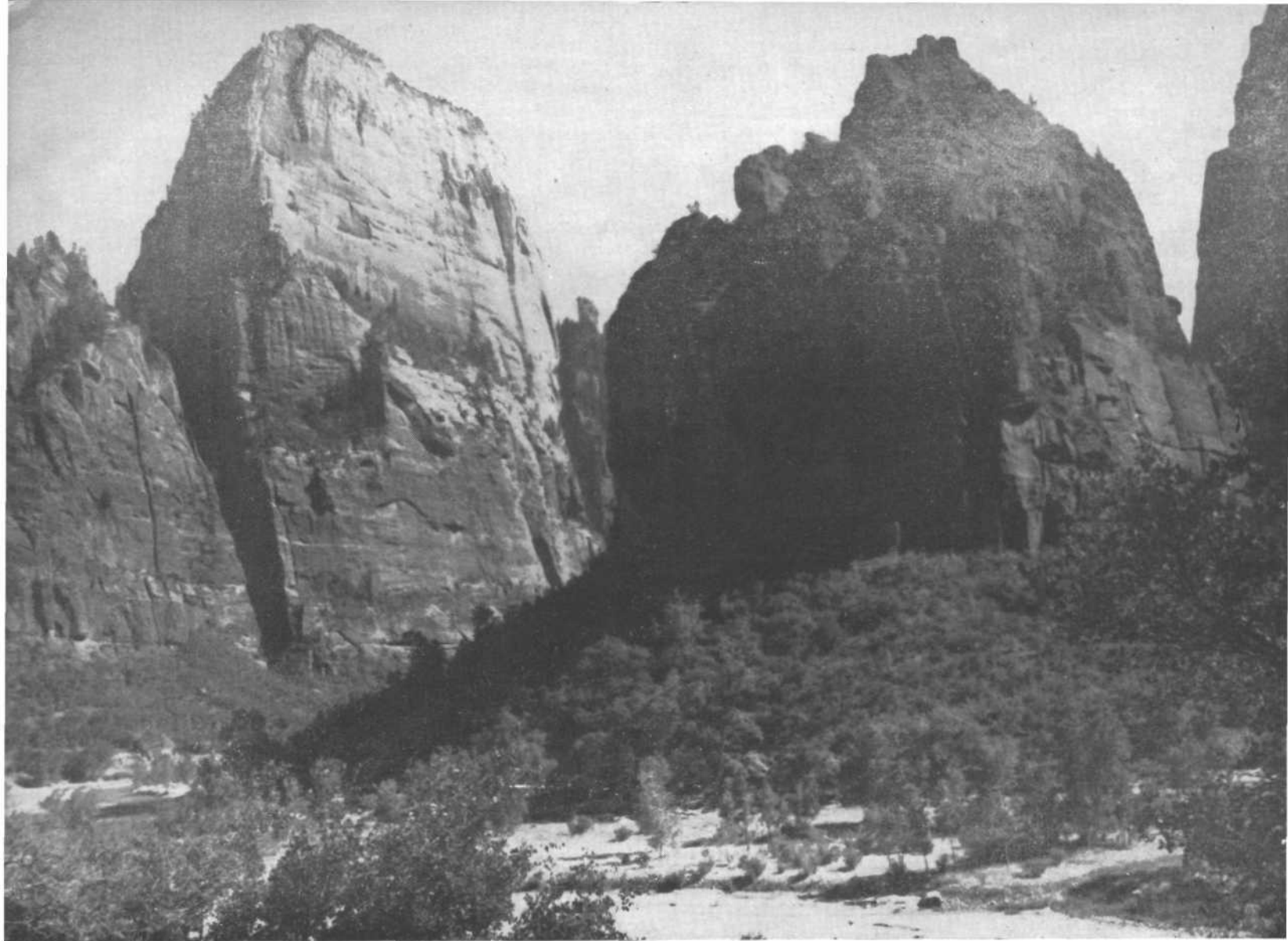


Desert

MARCH, 1958 35 Cents





Zion Canyon. Great White Throne, left of center. Photo by George E. Barrett.

DESERT SUNSET

By GEORGE I. LACEY
Kingfisher, Oklahoma

I often linger along the trail,
As the setting sun drops low,
To watch the gleaming, golden rays
Turn the mesa rim to a golden glow.

Now the changing lights on the distant peaks
That were copper and red and gold—
Fade to violet and mauves, before my eyes
As the shadows of night unfold.

Then the shimmering lights on cliffs and
bluffs
Gleam with a thousand tints and hues,
Now change to more somber grays and
buffs
In the fading light, their colors difuse.

Could an artist paint—or a poet write?
Could either ever completely cope?
As the desert changes from day to night;
With this beautiful, natural kaleidoscope?

The light fades fast—the sun has set,
And all is well, and we understand:
That the Great Creator did not forget
This wonderful, desolate desert land.

Now the day is done and the night is near
And out of a wash comes a coyote's wail;
And out of the heavens the stars appear;
And we hurry home—o'er the desert trail.

Zion Canyon

By MILDRED BREEDLOVE
Las Vegas, Nevada.

I came unto a place where scarlet peaks,
Like hewn cathedrals, rise a thousand feet—
A solemn place where silent grandeur
speaks.

Where God and man, and earth and heaven
meet.

The Great White Tower might have been
designed

As mute petitioner throughout the years—
For those who come, who see, and yet are
blind,

The Weeping Rock sheds constant streams
of tears.

The Great White Throne, a tree for every
gem

Atop a thousand-foot vermillion base,
Remains a matchless royal diadem
Whose patterns only wind and rain can
trace.

And it was there I came to understand
My kinship with the lowly grain of sand.

• • •

DESERT WIND ANTICS

By LAURA W. DUNLAP
Santa Ana, California

The wind god sweeps the desert floor
Until he feels the task well done,
And then from chore to play, he combs
The sides of sand dunes just for fun.

OLD INDIAN POTTERY

By JEAN HOGAN DUDLEY
Inglewood, California

This piece of pottery has tales to tell:
Here mountain goats were hunted, here a
boy
Brought sheep to drink at his small desert
well,
And here a father fashioned a rude toy
For his dark-eyed and laughing little child,
Here mother's hands ground corn with pa-
tient care,
And here a family has lived, and smiled
At the warm, everyday love they could
share.

Path of Wisdom

By TANYA SOUTH

Let us not judge another, then.
Ourselves, too, may be judged.
For common mortal is our grain,
And all of us have trudged
Along the weary path of sin,
With desolation marked,
Till we have caught the light within,
And to the Small Voice harked.

The plight in which I see another
Was once my own. And were I
wise,
Each man would be my long-loved
brother.
Thus should I rise.

DESERT CALENDAR

Feb. 23-March 1—11th Annual Cactus Show, Desert Botanical Gardens, Phoenix.
 Feb. 28-March 1 — 11th Annual Square Dance Jamboree, Phoenix.
 March 1—Junior Solar Symposium, Tempe, Arizona.
 March 1-9 — California Mid-Winter Fair, Imperial.
 March 1-23—R. Brownell McGrew show at Palm Desert, Calif., Art Gallery. (See page 22)
 March 2—Dons Club Trek for Lost Gold in the Superstition Mountains, from Phoenix.
 March 4-30—Frank Mason show at Phoenix Art Center.
 March 5-6 — All-Breed Dog Show, Phoenix.
 March 6—Cattle Rustlers Ball, Wickenburg, Arizona.
 March 8-9—Sierra Club Desert Peaks Section hike to Rabbit Peak near Indio, Calif. For information phone ED 9-3144, Covina.
 March 9 — Ninth Annual Almond Blossom Festival, Quartz Hill, Cal.
 March 9 and 23—Desert Sun Ranchers Rodeo, Wickenburg, Arizona.
 March 11-12—Malpi-Angus Breeders Show and Sale, Clayton, N. M.
 March 12-16—22nd Annual Desert Circus, Palm Springs, California.
 March 13-16—World's Championship Rodeo, Phoenix.
 March 15-16—Sierra Club camping trip to Ord Mt. petroglyphs. Meet at Lucerne Valley, Calif., P.O., at 9 a.m. on the 15th.
 March 15-16—National Alpine Ski Championships, Snow Basin, Ogden, Utah.
 March 16 — Out Wickenburg Way Style Show, Wickenburg, Arizona.
 March 16-23 — 23rd Annual Palm Springs, Calif., Men's Invitational Golf Tournament.
 March 17—St. Patrick's Day Celebration, Socorro, New Mexico.
 March 19—Miniature Parade, Mesa, Arizona.
 March 19 — Fiesta and Ceremonial Dances, Laguna Pueblo, N. M.
 March 19-23—Maricopa County Fair, Mesa, Arizona.
 March 21-23—Dons Club Bus Tour to Hopi Villages, from Phoenix.
 March 22-23—10th Annual De Anza Jeep Cavalcade, from Hemet, Cal.
 March 23-24—Invitational Golf Tournament, Wickenburg, Arizona.
 March 23-25 — New Mexico Cattle Growers Association Convention, Albuquerque.
 March 23-30—Home Show, Phoenix.
 March 28-29—Valley Garden Center Flower Show, Phoenix.
 March 29-30 — Sierra Club Desert Peaks Section Providence Mt. climb. Meet at Mitchell's Caverns, Calif. For information phone ED 9-3144, Covina.
 March 29-30 — Silver Dollar Ski Derby, Reno.
 March 29-30 — Dons Club Grand Canyon Bus Tour, from Phoenix.
 March 30-April 6 — Yaqui Indian Ceremonials, Pasqua Village, Ariz.
 Late March — Opening of acequias (irrigation ditches) with colorful ceremonies at various New Mexico pueblos.
 —Ute Indian Bear Dances probably will be held in March. Send inquiries to Roosevelt, Utah, C of C.



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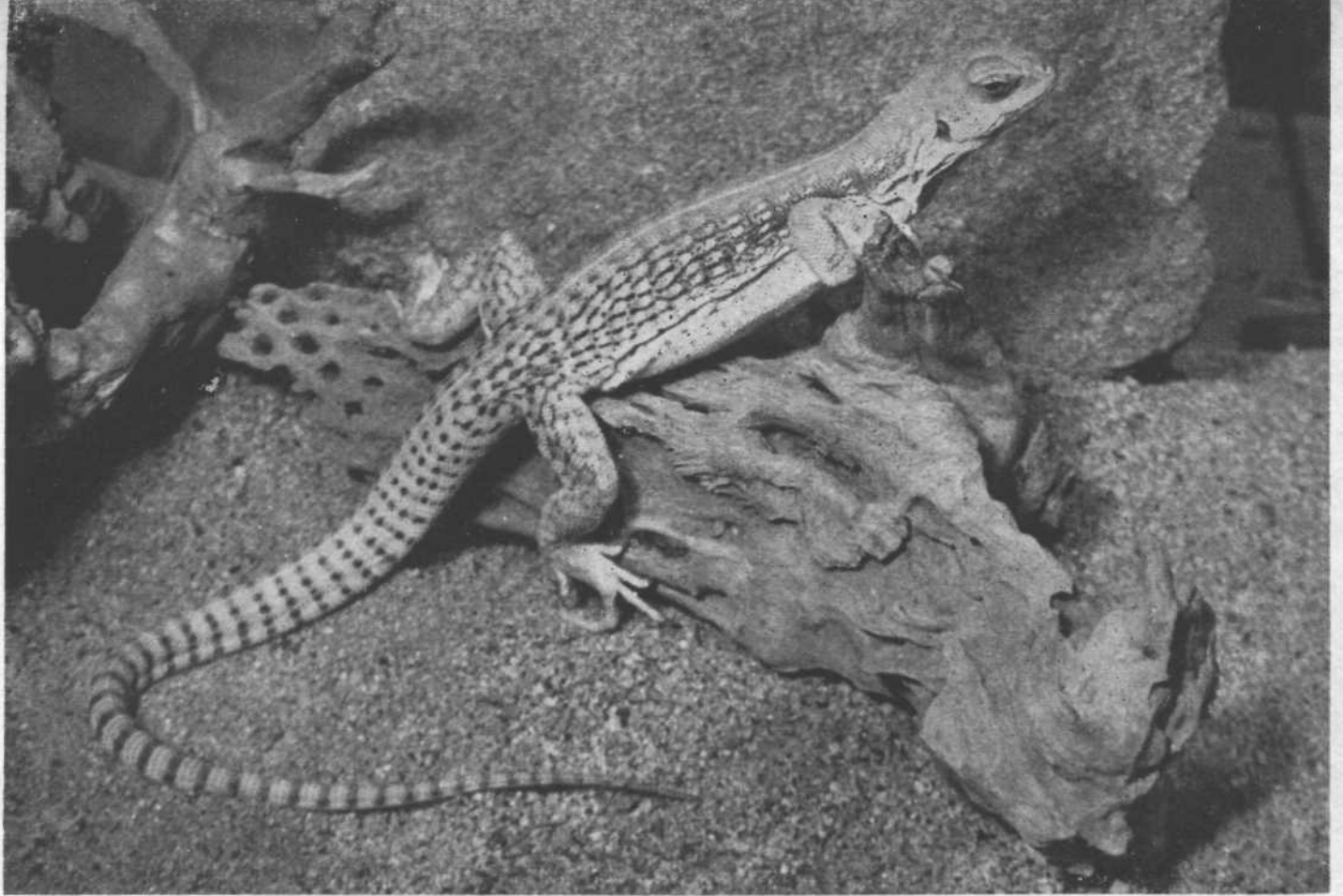
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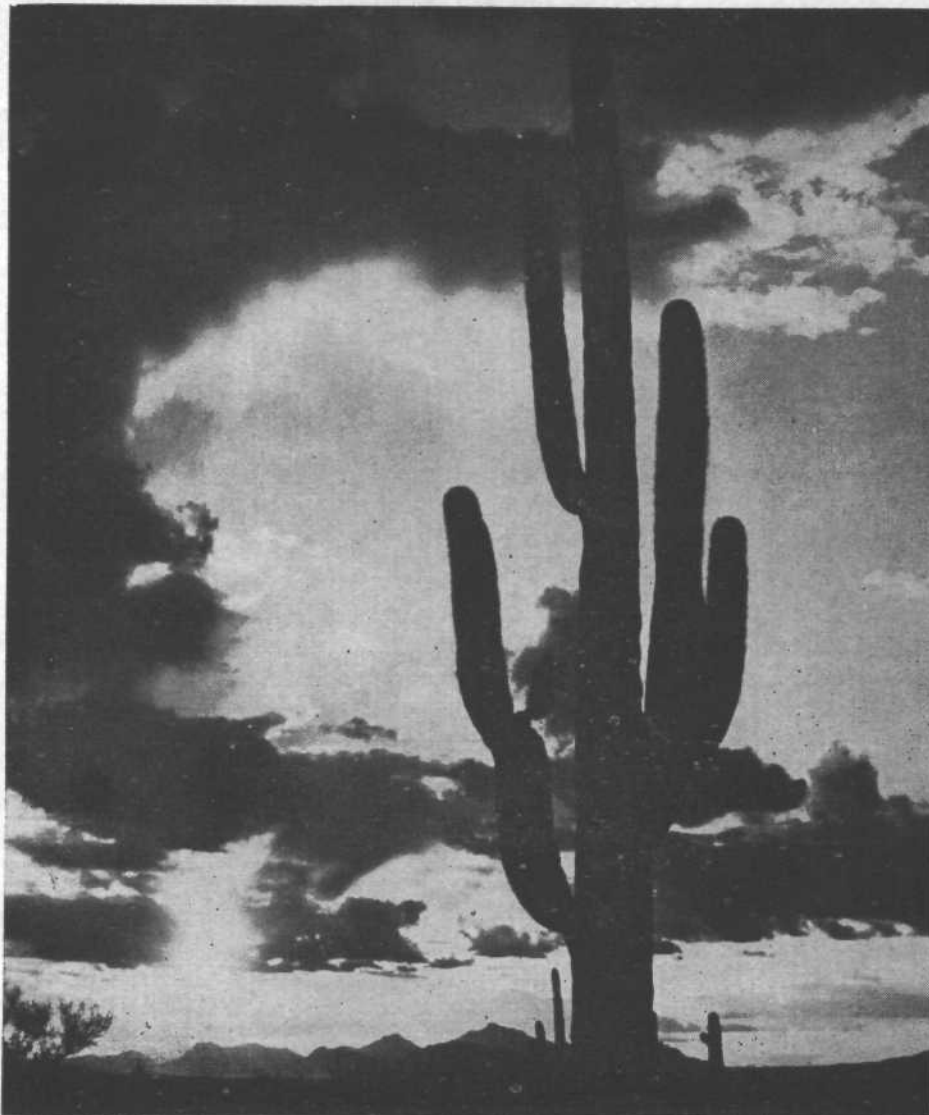
Crested Lizard

The blunt-headed reptile above is a Northern Crested Lizard—a common inhabitant of the flat desert areas of southeastern California, southern Nevada, western Arizona, northwestern Sonora and northern Baja California. These harmless creatures feed almost exclusively on plant matter. This month's first prize photograph was taken by Air Force Major Jack Novak of San Bernardino, California. He used a Rolleiflex camera with a Number 1 close-up attachment; Tri-X film; 1/10 second at f. 22.

Pictures of the Month

Silverbell Sunset

Spring rain clouds frame a silhouetted saguaro cactus as the sun sets behind the Silverbell Mountains in southern Arizona. Koyo Lopez of Tucson was awarded second prize for this intriguing black and white study. Camera data: Rolleiflex camera with f. 3.5 Schneider Xenar lens; Tri-X film; 1/60 second at f. 5.6; light red filter.





Polished slabs of Boron petrified wood from the collection of Henry and Emily Hiatt, Rancho Mirage, California. Photo by Willis.

Rockhound Bonanza at Boron

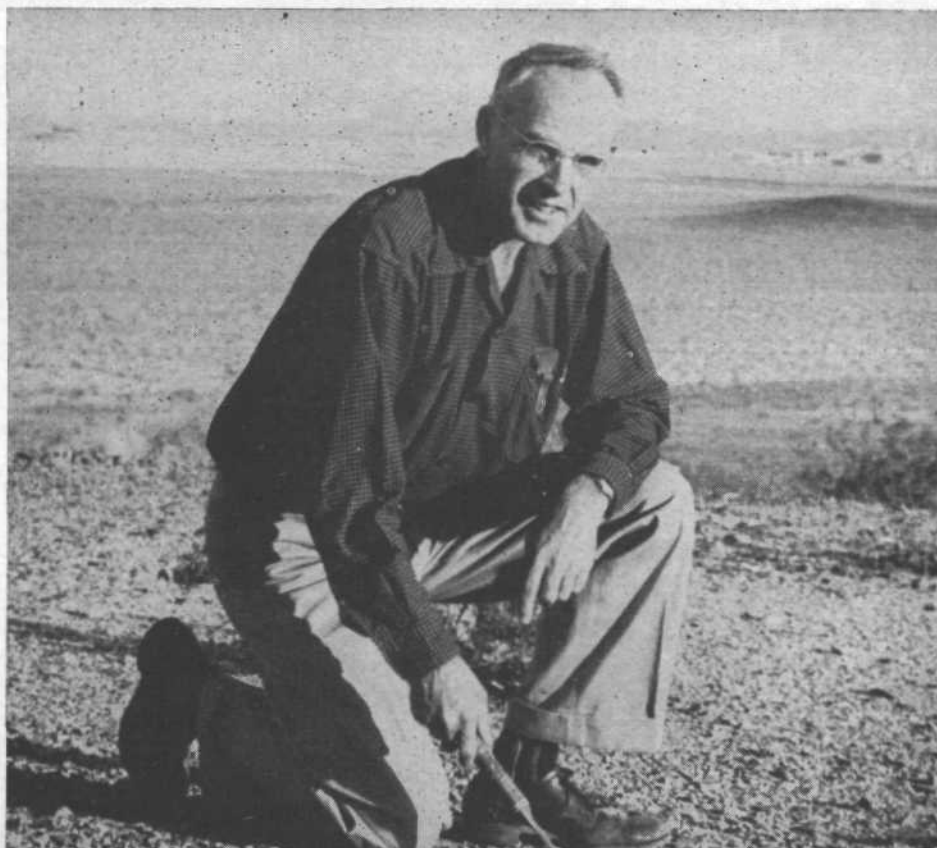
Petrified wood, agates and rare borate-family crystals—these are the prizes waiting for those who follow the gem trails at Boron on California's Mojave Desert. It's a captivating area, rich in the scenery and solitude that make any desert outing worthwhile—and it's an interesting area, linking the 20 Mule Borax Wagon era with tomorrow's rockets to the moon.

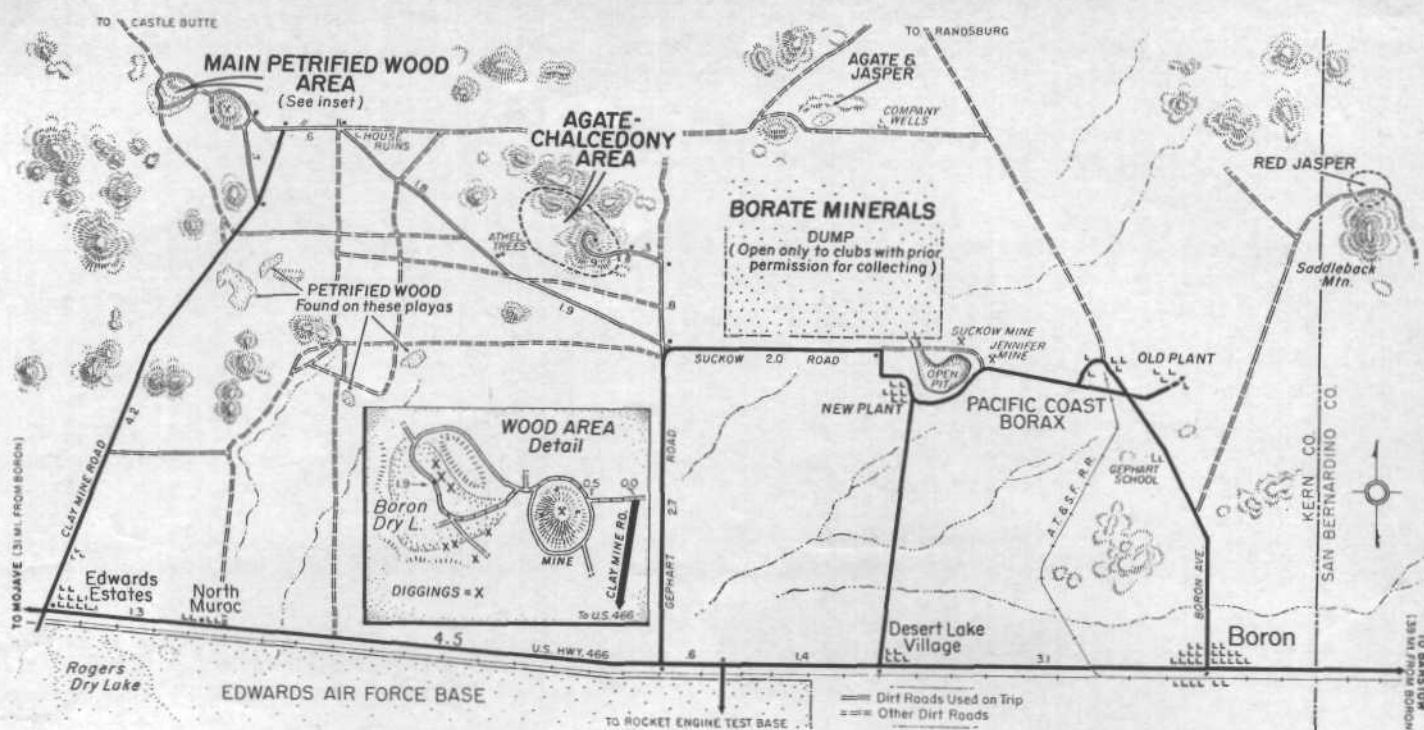
By EUGENE L. CONROTTO
Map by Norton Allen

POPULARITY OF the three major gem and mineral collecting fields at Boron, California, has increased markedly in the past few years, and after a visit to this central Mojave Desert area in November, the reasons became obvious. Boron has: accessibility (the gem fields are near the highway and easily reached by standard car); wide variety of material (petrified wood, agates and rare borate crystals); fascinating terrain — and Vincent Morgan.

A Boron resident since 1937, and for the past 10 years chief chemist for Pacific Coast Borax Company, Mor-

Vincent Morgan, Pacific Coast Borax Company's chief chemist and president of the American Federation of Mineralogical Societies.





gan is one of America's foremost mineral collectors.

Currently head of the American Federation of Mineralogical Societies, Morgan has been a director of the California Federation for 10 years and was its president in 1956. And as important to him as the above positions and titles is the fact that he has been several times president of the local Mojave Mineralogical Society—one of 1000 such organizations in the country.

Almost every weekend of the winter months will find this good-humored quick-thinking 49-year-old world authority on the borate family of minerals out with the amateur collectors, cheerfully devoting his time and energy as guide, mineralogist and local historian.

His invitation to tour the Boron fields was one I eagerly accepted. We met in town and drove 11 miles west on Highway 466, which bisects the community, and then turned north toward the open desert on Clay Mine Road. This route follows an aisle through a group of rounded beehive-shaped hills. They rise abruptly out of the flat desert floor, dotted as far as the eye can see with scraggy low plants, mostly creosote. A few Joshua trees are prominent on this plain.

These silent dark red knolls are of volcanic origin, but before they were formed this was a land of winding streams and blue lakes bordered with lush vegetation — reeds, grasses and strange palm trees. Volcanic ash crushed and buried these lakeside plants, and Nature, taking centuries to do her work, turned their once-living fibers into beautiful stones. And

here they lie today in the many playas surrounding these hills—some of the most vivid petrified wood found anywhere. The close-grained specimens come in all colors — from white to black and including green and much-prized red. Some of the outstanding pieces contain fine picture patterns. Cut and polished, Boron Wood takes on a mirror-like finish to reveal in all the beauty and wonder of Nature the ancient plants' molecular composition.

A clay mine near the end of the five-mile long paved road is a lone symmetrical hillock bearing the scars of excavation on three sides—west, north and east. These portals are unsafe to explore.

Actually the mine was a tufa working and the material it yielded was used by oil refineries in their filtration processes. The mine has been inactive since the war.

Immediately west of the abandoned workings is L-shaped Boron Dry Lake, the main petrified wood locale.

The dry lake's borders resemble a shell-blasted battle field, for the best wood specimens are found from two to five feet below the hard pan surface. Some of the holes dug by collectors are 10 feet deep, and finding the wood is a combination of hard work and luck.

Boron Dry Lake, rimmed on three sides by a low barren ridge, is a favorite camping place for mineral clubs. Not only does it offer some protection from the wind, which can be bitterly searing on the Mojave, and a chance to find petrified wood underfoot; it is conveniently located to the other col-

lecting fields in the area. There is no water or fire wood at the playa.

As we walked over the mounds of turned earth, Morgan explained that it was he who discovered this area in 1938.

"It was easy pickings then," he recalled with a grin, "wood was lying all over the ground—but there's still plenty here." He picked up a small red-brown stone. "Look! Here's some—right on the surface," he said, handing me the specimen. "It's not the best piece in the world, but it certainly indicates that this is a rich field for the ambitious rockhound."

From the playa we doubled back toward Boron over a sandy but well-packed trail paralleling the main highway. This back country is crisscrossed with trails, for there was considerable homestead activity here in the pre-war years. The northbound roads wander off to Castle Butte, Randsburg, Cantil and Mojave; the southbound to the highway.

Four miles from the playa, our trail curved around prominent Lookout Hill, still another of the reddish volcanic peaks scattered about this region, and then climbed to its summit. Near the top the sandy desert soil gives way to a malpais of loose red volcanic stones resembling shattered pieces of Spanish tile roofing.

An agate field stretches from the top of Lookout Hill down its western flanks to a group of athel trees on the plain below marking the site of an abandoned homestead; and from the peak northwesterly across a deep gully to another arm of the mountain. On the higher ground the agate specimens



Some of the holes dug by rockhounds in search of petrified wood buried along the edge of Boron Dry Lake are 10 feet deep.

lie in the cracks between the tile-like surface stones. Sharing the open spaces were thick growths of stiff dead wildflowers which had bloomed in the spring. Most prominent plant was punctured bract which characteristically had turned red in its old age. Its stems pass through the center of broad rounded bracts—like miniature arrows shot through targets.

After an hour's search along the peak's flanks, we compared notes. Lookout Hill contains fortification,

sagenite and moss agate, as well as geodes. Most of the stones are light in color. The few that are darker have attractive plume designs. The agate specimens take their names from their appearances. Fortification agate has zigzag bandings which look like drawings of Civil War fortification and battle lines. Agate with acicular (needle-like) inclusions is called sagenite because the mineral sagenite is acicular rutile. When an agate shows dendritic (branching like a tree) pat-

terns usually it is described as moss agate. These are the treasures of Lookout Hill. There are two other agate-jasper areas nearby, one on the hill behind the company wells north of the Pacific Coast Borax Mine, and the other on Saddleback Mountain northeast of Boron.

Rising 400 feet above the 2300-foot altitude desert floor, Lookout Hill was used for an aircraft observation post during the war, and the view from its summit is marvelous.

The rich borate collecting field—overburden and waste from Pacific Coast Borax Company's huge open pit mine.



To the south was the white shimmering surface of Rogers Dry Lake, heart of Edwards Flight Test and Development Center. Along the horizon

stretched the deep purple San Gabriel Mountains which separate the Los Angeles basin from the Mojave.

Westward, the red cones surround-

ing Boron Dry Lake now appeared flattened out and more massive—like frozen swells in a great sea that threatened to roll over our island peak. Behind them stood majestic Castle and Desert buttes—immense and classical landmarks.

This is the Mojave Desert which has inspired man since the first naked wanderers crossed its wide expanse. Its very vastness makes time stop—the rumble of 20 Mule Team borax wagons, the whine of jeeps and the roar of rockets are all one to the Mojave.

Eastward was Boron, a desert boom town of nearly 4000 residents. Impetus for its rapid growth are the two industrial operations clearly seen from our vantage point.

Northwest of the community is Pacific Coast Borax Company's new \$20,000,000 plant and open pit mine, the latter looking like a gouge in a child's sand box from Lookout Hill. The PCB operation, which began here in the late 1920s, is Boron's backbone. Six hundred men are employed by this concern at present.

South of town and high on the rim-rocks of dull-colored Leuhman Ridge stand several massive concrete and steel test stands of the Rocket Engine Test Base, a component of the huge 30,000-acre Edwards AFB which extends from Boron 30 miles west to Mojave, and 20 miles south to Lancaster, with Highway 466 roughly serving as its northern boundary. The Rocket Engine Base, begun in 1949 with 250 employees, today has nearly 2000.

The story of the desert communities in this region is largely the story of Edwards, originally known as Muroc Air Field. Lured by a climate that allowed flying 365 days a year; a region so thinly populated that the chances of an airplane crashing into a dwelling were remote; and a 65-square-mile dry lake emergency landing field whose fine clay and silt surface can support pressures up to 250 pounds per square inch, the air corps arrived in 1933. And since that day, aviation, Edwards and the southwestern Mojave Desert have grown hand in hand.

Morgan took a canteen out of the car and we sat down on the rocky ground. It was my opportunity to learn more about my host.

He was born in Los Angeles and arrived at college age during the depression. It took 10 years for Morgan to earn his bachelor's degree in chemistry at U.C.L.A. for he had to drop out of school almost every other semester to finance his education.

In 1937 he moved to Boron and went to work for Pacific Coast Borax.

Desert Quiz

How wise are you in the lore of the desert, its geography, history, place names, natural sciences? Here is an opportunity for you to answer that question for yourself. These 20 questions are based partly on a practical acquaintance with the desert Southwest, and partly on the knowledge that comes from reading. The test covers a wide field of subjects and if you answer 50 percent of them correctly you are better informed than the average person. A score of 13 to 15 is good, 16 to 18 is excellent, and it is a rare student who will answer over 18 correctly. The answers are on page 34.

- 1—One of the following desert trees has a deep blue or purple blossom. Joshua tree..... Mesquite..... Ironwood..... Smoke tree.....
- 2—An Indian kiva is used for: Gathering saguaro fruit..... Ceremonial purposes..... Carrying the papoose on its mother's back..... Charming snakes.....
- 3—The annual Inter-Tribal Indian ceremonial is held in August at: Prescott..... Kayenta..... Window Rock..... Gallup.....
- 4—Deglet Noor is the name of a: Famous Paiute Indian Chief..... Species of date palm in Coachella Valley..... Mountain peak overlooking Death Valley..... Bridge in the Natural Bridges national monument.....
- 5—Indians who call themselves *Dine*, meaning "the people," are the: Yuma..... Hualpai..... Navajo..... Mojave.....
- 6—Death Valley was given its name by: Jedediah Smith..... Death Valley Scotty..... Bennett-Arcane party..... Pacific Borax company.....
- 7—The Wasatch mountains may be seen from: Tucson..... Needles..... Flagstaff..... Salt Lake City.....
- 8—The most common ingredient of the sand generally found in the desert arroyos is: Quartz..... Manganese..... Gypsum..... Limestone.....
- 9—The astronomical name for the north star is: Venus..... Jupiter..... Polaris..... Mars.....
- 10—The main dam which stores the water for Salt River Valley farmers in Arizona was named in honor of: Coolidge..... Teddy Roosevelt..... Hoover..... Wilson.....
- 11—Javelina is a Spanish word commonly used in the Southwest for: A spear-like weapon used by the Cocopah Indians..... Species of wild hog found in southern Arizona..... Birds that nest in fissures in the rocks..... Member of the lizard family.....
- 12—Joshua trees belong to the botanical family of: Palm..... Cacti..... Conifer..... Lily.....
- 13—Name of the frontiersman who established a stage line across the Southern California desert to the La Paz gold fields in the 'sixties: Bradshaw..... Butterfield..... Banning..... Weaver.....
- 14—The famous Mormon Battalion was recruited to: Aid in the conquest of California..... Colonize Utah..... Open a new Northwest trail..... Guard the Santa Fe trail.....
- 15—McNary, Arizona, is known for its: Gold mines..... Lumber industry..... Indian crafts work..... Scenic rock formations.....
- 16—The San Juan River is a tributary of the: Colorado..... Rio Grande..... Green River..... Gila.....
- 17—The famous "Rock of Ages" in a western national park is at: Zion..... Grand Canyon..... Carlsbad Caverns..... Mesa Verde.....
- 18—Ed Schieffelin was the name of the man credited with the discovery of: Rainbow Natural bridge..... Casa Grande ruins..... Silver at Tombstone..... Potash at Trona.....
- 19—The career of Billy the Kid is associated with the state of: Arizona..... New Mexico..... Utah..... Nevada.....
- 20—Piper's Opera House is a landmark at: Tombstone..... Randsburg..... Virginia City..... Rhyolite.....

He and his popular wife, Midge, a member of PCB's personnel department, have three sons, the eldest an electrical engineer living in Hollywood, and the two at home in high school and grade school. The family lives in a comfortable house on five acres of desert land near Boron—their home for the past 20 years.

Recreation to the Morgan family is centered around the desert—"sort of like a busman's holiday," he mused. Although the current job of getting the laboratory at the new plant in operation is demanding seven days a week and often 12 hours a day of his time, when the situation returns to normal the Morgans hope to strike out on another camping - exploration tour of the desert.

"We like to see what the country is like on these trips," he explained. "We always take the secondary highways and on our most recent Utah trip we covered 2000 miles and hardly saw a paved road."

Of course the urge to collect mineral specimens follows wherever they go. Morgan, whose interests tend more to serious collecting than gem stone polishing, has published several papers in scientific journals on minerals. His most recent achievement was the discovery of the newest borax mineral which he named Lesserite after Federico Lesser, late director of Borax Consolidated, parent company of Pacific Coast Borax. He also discovered the new non-borate mineral Gerstleyite, named in honor of James F. Gerstley, president of U. S. Borax and Chemical Company.

What does the titular head of America's 40,000 gem and mineral society members think of the future of rockhounding as one after another of the collecting fields become exhausted or closed to public usage?

"The answer," said Morgan without a moment's hesitation, for this problem has occupied his attention for a great many years, "is education through the local gem and mineral societies.

"Rockhounds are no different than most folks, except, perhaps, for a generally greater appreciation of the outdoors. Most collectors are reasonably conscientious, but some are greedy. We must teach conservation and moderation to all mineral collectors—and the instrument for that educational process is the local club."

The American Federation which Morgan heads is a federation of the nation's six regional federations, the California, Northwestern, Rocky Mountain, Midwestern, Eastern and Texas. Because each of these organizations is autonomous, the American Federation's chief function is advisory.



Dave Stankard of San Bernardino is freeing a cluster of calcite crystals from this colemanite boulder in the dump area.

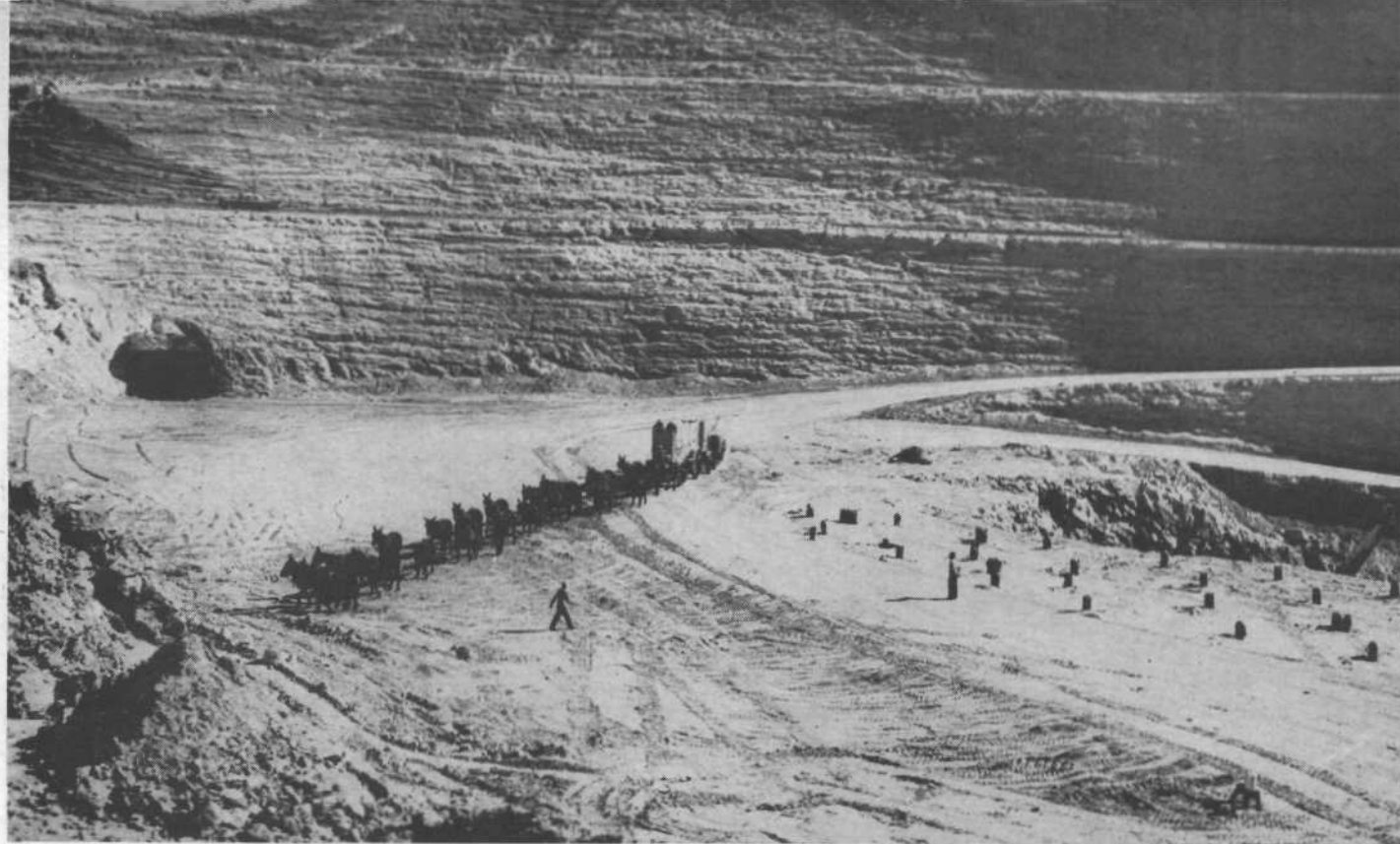
It is at the regional level that pressure can be brought to bear against known violators of collecting ethics. Local clubs which permit such violations can be expelled from the regional federation if all else fails to correct the situation.

And the regional federations are best equipped to direct the education of rockhounds along desired lines. The California Federation, for instance, recently inaugurated a program whereby field trip chairmen of local clubs gather for seminars in which discussions are held on such topics as proper behavior of members in the field; process for obtaining permission to collect on private ground; how to set up camp and clean up afterward; safety; etc.

Morgan believes three main reasons

are responsible for the increasing scarcity of good collecting fields: 1, the best areas have been picked over by rockhounds; 2, population encroachment; and 3, military land grabs.

He gives these solutions: 1, education will deter the cleaning out of fields by collectors; 2, clubs officially are being encouraged to file claims on good collecting areas to head off the encroachment problem; and 3, military land grabs could be a blessing in disguise for rockhounds. Some bases now allow groups with prior permission to collect minerals within their borders, and Morgan feels that with the right approach more military reservations will be opened to mineral societies. "The government will regulate and restrict collecting on their lands which means that there is going to be ma-



When open pit mine was dedicated last November, a 20 Mule Team hauled a load of ore to the top. Photo by W. H. Wamsley.

terial to collect on military bases much longer than in other areas," he pointed out.

Our next stop was the new PCB plant on Suckow Road, named for Dr. John Suckow upon whose homestead near the open pit, well drillers first discovered colemanite, a borax ore, in 1913.

The Boron deposit is a flat tabular mass of nearly pure borax and kernite two miles long, half a mile wide and over 200 feet deep. Before the open pit was excavated at the southwestern end of the ore body, the deposit was worked by underground mines. But this was wasteful, for half of the ore had to be left behind in the form of pillars and columns to support the tunnel, and this fact, combined with a steadily increasing demand for the versatile material, decided the company to develop its huge open pit mine and concentrator-refinery. This facility will increase the Free World's production of boron by 40 percent.

We parked at the southern rim of the awesome 1400-foot wide and 215-foot deep pit where PCB has made tentative plans to erect visitor facilities. The 25-acre excavation is terraced at 50-foot intervals, and these broad benches are connected by an access road which has a maximum grade of seven percent.

Modern society has come to depend heavily on borax, the principal commercial boron compound, but its utility dates back to the days of the Babylonians who used it in the gold refining process. Most oxides become highly soluble in easily-fused borax,

and for this reason it is useful in the metallurgical and ceramic industries. It also is employed in the manufacture of paints, plywood, glazed paper, soaps, cosmetics, disinfectants, preservatives, weed killers, glass, welding fluxes, abrasives, dehydrating agents, fire retardants, fertilizers and many other commodities. Most recently publicized uses of the wonder element are as an additive to automobile gasolines, and as high energy fuels for rocket and jet engines.

We drove into the two-square-mile area immediately west of the open pit where 10,000,000 tons of waste material from the mine was spread. The dump's irregular surface is a crumbling mass of boulder-to-pebble size stones and porous earth. A dike has been built along the north border to divert flood waters from the pit.

This man-made mineral collecting field is the third major Boron rockhound area, one rich in borate-family crystals and minerals. Collecting here is restricted to gem and mineral societies which obtain permission in writing from the company's office at Boron. Collecting is not permitted in the pit.

Unlike the commercially valuable but unattractive chalky borax ore stockpiled south of the dump, the overburden is a rich harvest ground for rare and beautiful specimens. Nowhere have I walked over a more fascinating terrain. The soft earth sparkled with crystals and every step brought me to an interesting stone.

While nearly 100 naturally occurring elements have been found in this

deposit, Morgan pointed out that the amateur collectors concentrate on these five:

1. Colemanite crystals. These calcium borate crystals are razor-sharp and sparkle like diamonds. They are colorless to deep brown.

2. Borax crystals. Perfectly formed specimens are not too common because of the brittle nature of the material. Color is white, but sometimes gray, bluish or greenish.

3. Calcite crystals in a variety of forms and colors.

4. Ulexite. This is satin spar and takes a brilliant polish. Occasional clear specimens show an unusual optical quality which has prompted the common name, "TV Rock."

5. Inderite. A rare colorless to gray mineral (magnesium borate) which has been found in only three places on earth, and only at Boron in its crystal form. It has a very pronounced cleavage and is somewhat glassy in appearance.

Vincent Morgan, who directs a 24-man laboratory responsible for the hourly analysis of crude ore, tailings and products for one of America's most important mining operations, is the originator of the dump collecting idea. And when the rockhound clubs arrive early Sunday morning after camping out at Boron Dry Lake and a quick scouting trip to Lookout Hill, it is Vincent Morgan who volunteers to lead them into the field in search of rare borate minerals—explaining in his friendly way the nature of each piece of material brought to his attention.

FAIR TO EXCELLENT MARCH WILDFLOWER DISPLAYS PREDICTED

February storms following a dry January may have provided the moisture needed for outstanding wildflower displays during the month of March in many sectors of the Southwest. *Desert Magazine* correspondents generally agree that possibilities of a colorful flower showing are better than they have been in several years.

Death Valley National Monument Naturalist M. B. Ingham said the winter rains have been sufficient to bring out a good display—barring a sudden spell of warm weather or a freeze. Desertgold blossoms should reach their peak during March.

Bruce W. Black, park naturalist at Joshua Tree National Monument, recommends that March visitors make the drive from Twentynine Palms or Joshua Tree through the Monument to Highway 60-70. They can expect to see these flowers and shrubs in blossom along the way: brittle-bush, creosote, chuparosa, desert alyssum, purple mat, brown-eyed primrose, blazing star, coreopsis, woolly marigold, lupine, verbena, pincushion, mallow, desert-star, gold-poppy, dandelion, yellow cup, forget-me-not and several species of phacelia.

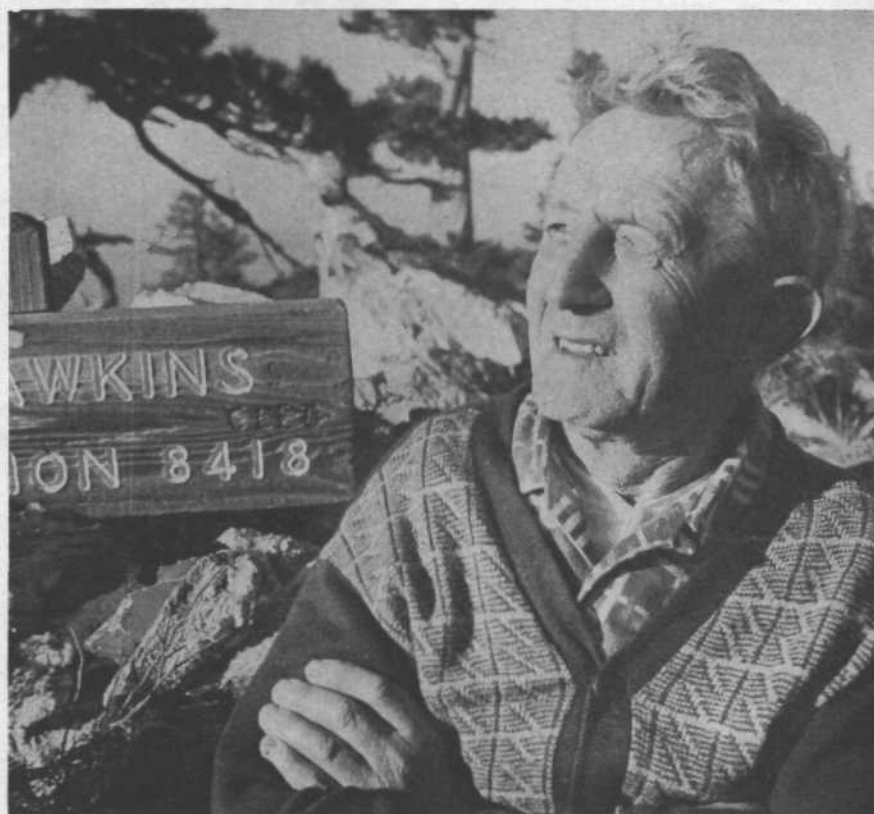
Several hundred acres of wildflowers were coming into bloom along the Baseline Road, 23 to 25 miles east of Twentynine Palms, reported Lucile Weight of that community. Included were evening primrose, geraea, baileya, verbena, spectacle-pod and pholisma. Conspicuous flower showings are predicted for the Colorado Desert area from Highway 60-70 to Niland via Box Canyon and Highway 111 along the north shore of Salton Sea.

Chances are good that the Coachella Valley flower show will extend into March, although the February rains may have come too late to save the rather stunted plants which sprouted after the fall precipitation. Drainage ditches along roadways in the valley can be counted on to show blossoms in March, especially verbena.

Clyde E. Strickler, supervisor of Anza-Borrego Desert State Park, reports that Borrego Palm, Sheep and Coyote canyons have water in them and there should be some good blooms by March in these areas.

One of the best wildflower displays in history—provided no late February freeze occurs—is forecast for Lake Mead National Recreation Area by Park Naturalist James W. Schaack. These plants are expected to reach their peak of bloom in March: ground-cherry, aster, burrobrush, beavertail cactus, brittle-bush, mallow and rock

HE BECAME A MOUNTAINEER AT 70 . . .



A. K. WHIDDEN OF CORONA, California, started climbing mountains for recreation at the age of 70, and within four years had scaled 100 peaks over 5000 feet high, all in Southern California. This photo was taken on 8418-foot Mt. Hawkins in the San Gabriel Range. Whidden, a retired bee keeper, is Conservation Chairman of the Riverside Chapter of the Sierra Club. Today at 77 he is still one of the most active climbers in an organization of mountaineers.

Author Weldon Heald, a frequent contributor to *Desert Magazine*, initiated the "Hundred Peaks Game," as he called it, by listing 192 peaks over 5000 feet high in the Santa Barbara-Los Angeles-San Diego area ranges, and then becoming the first person to climb 100 of them.

Scores of folks in the four southern chapters of the Sierra Club—Santa Barbara, Los Angeles, San Diego and Riverside—are playing the Hundred Peaks Game; 42 have climbed 100 or more of the peaks; and two, Sam Fink of Santa Ana, and Freda Walbrecht of Sherman Oaks, have climbed all 192.—**PHOTO AND TEXT BY LOUISE WERNER**

daisy. Schaack also reports that the following plants may be in excellent display in the Lake Mohave area: filaree, lupine, rock daisy, verbena and creosote.

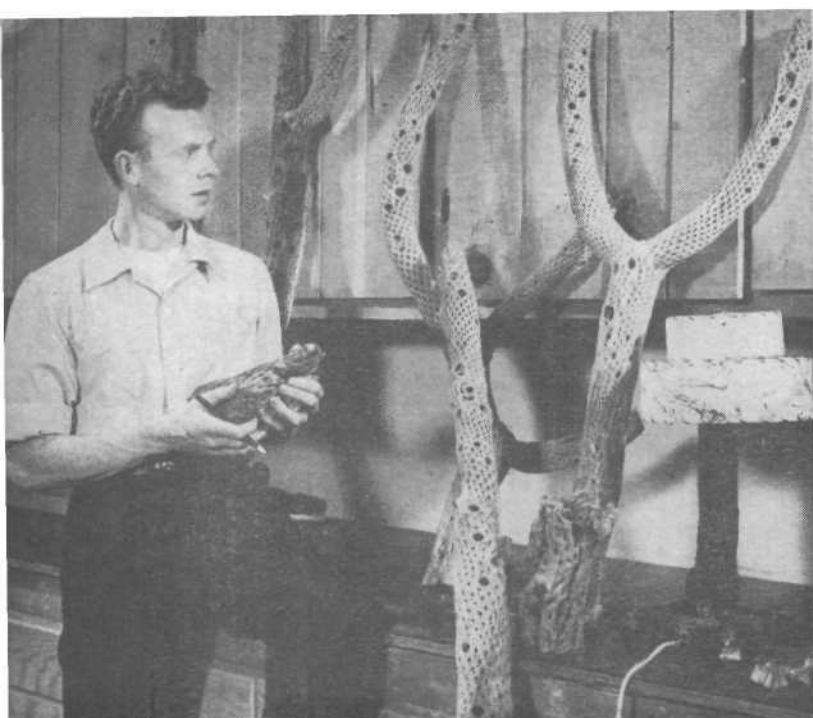
A wide variety of wildflowers should be visible along the nine-mile Cactus Forest Loop Drive in Saguaro National Monument in southern Arizona, predicted Ranger Robert J. Heying. Included are mallow, heliotropium, filaree, larkspur, aster, milkwort, paperflower, mariposa, fairy duster, owl clover, hyacinth and jojoba.

Marigold will be in blossom along the Florence to Tucson highway, forecast Earl Jackson, naturalist at the Southwest Archeological center at

Globe, Arizona. March visitors to this area will be rewarded with fair to outstanding flower displays by making the drive from Globe to Tonto National Monument; and from Globe to Coolidge Dam.

Sheltered places in Casa Grande National Monument near Coolidge, Arizona, should see the blossoming of globe mallow, pepper-grass and brittle-bush, predicted Archeologist Alden C. Hayes.

The desert is green and fresh at Organ Pipe Cactus National Monument in southern Arizona and Chief Ranger John T. Mullady says the chances for an above-average March display are good.



Peter Slade inspects cholla cactus skeletons.

Jewelry from the Cholla

Here's an interesting way to combine two popular hobbies: woodworking and lapidary. Cholla wood jewelry, set with gem stones, is truly "of the desert."

By RONALD J. CRISTY

Photographs by Wm. Eymann

CRAFTSMAN PETER SLADE of Menlo Park, California, has found that the perforated wooden skeletons of cholla cactus provide an attractive setting for polished or rough desert gem stones.

Although most of the steps involved in creating the highly glazed effect on the wooden settings still are in the

experimental stage and constantly being improved upon, Slade has produced some pieces of outstanding beauty in the pastel shades of the desert.

Here is the procedure for making the gem settings:

Saw the cholla wood sections into rings from one to two inches in thickness, depending on desired size of finished product.

To form individual blanks from the hollow slices, cut the rings apart (see photograph). The most attractive pieces are those centered with one of the many holes found in the skeletons. If round, rather than square or quadrangle, shapes are desired, a power plug cutter can be used on the cholla limbs, eliminating the first step in sawing the wood into sections.

After the blanks are cut, final shaping and finishing is done on a belt sander.

Next Slade cleans the pieces on a motorized wire brush. This is a slow and somewhat tedious process and he hopes to replace this step with a tumbling barrel which he believes will automatically clean hundreds of pieces of wood at the same time.

Following cleaning comes the drilling of holes on the back and sides of the square-donut-shaped pieces for the ear-mountings, screw-eyes, clasps, etc. These are inserted after the wood is painted.

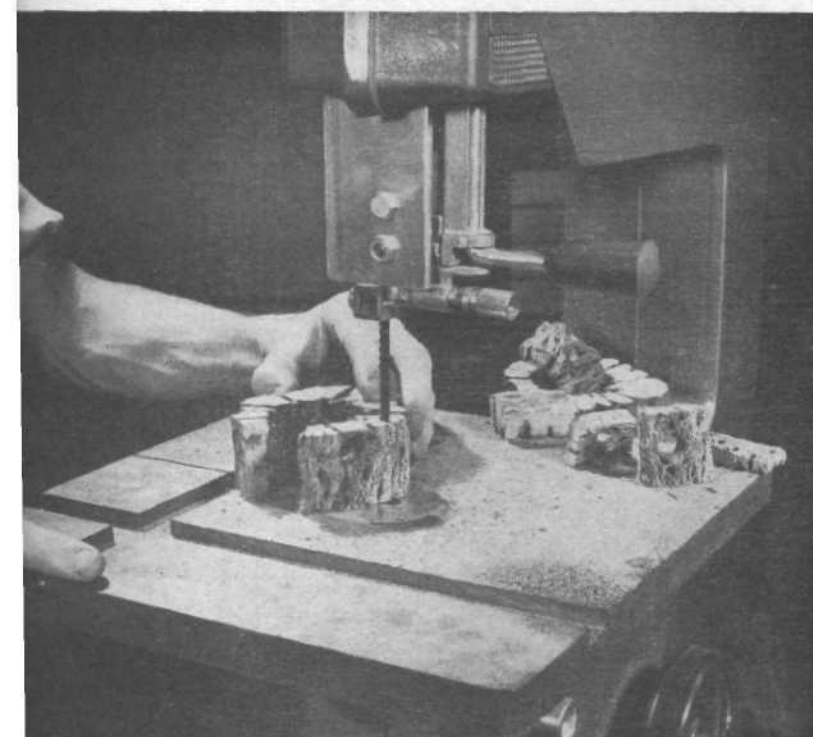
Next step is one in which the hobbyist can use his own favorite compounds, secret formulas and imagination—coloring the cholla forms. After the first coat is dry, Slade's technique is to apply a contrasting color to the form edges.

Final step is the insertion of the gem stones—rough or polished—into the cholla wood holes. Sometimes merely pressing the stones into an undersized hole in the soft wood will hold them in place, other times the stones must be held from the rear or sides with special arrangements. Pieces showing one large hole will take only one stone, pieces with many smaller holes will hold several stones.

Worn as earrings, the weight of the wood is negligible in proportion to the size of the ensembles.

After screw-eyes, clasps, etc., are in place, cholla is painted. Final step is insertion of the gem stones.

The cholla rings are cut apart to form individual blanks. Next step is to shape pieces on belt sander, then clean.





Landscape Arch in the Devil's Garden of Arches National Monument, Utah. The slender span is 291 feet long and 118 feet high. Photo by Hubert A. Lowman.

Over the Top of Landscape Arch ...

Rockclimbing is an adventurous sport calling for the utmost in physical fitness, climbing skill and team cooperation. Here is the story of how three young men made the second known ascent and traverse of Utah's Landscape Arch, the world's longest natural bridge and one of its most challenging climbs.

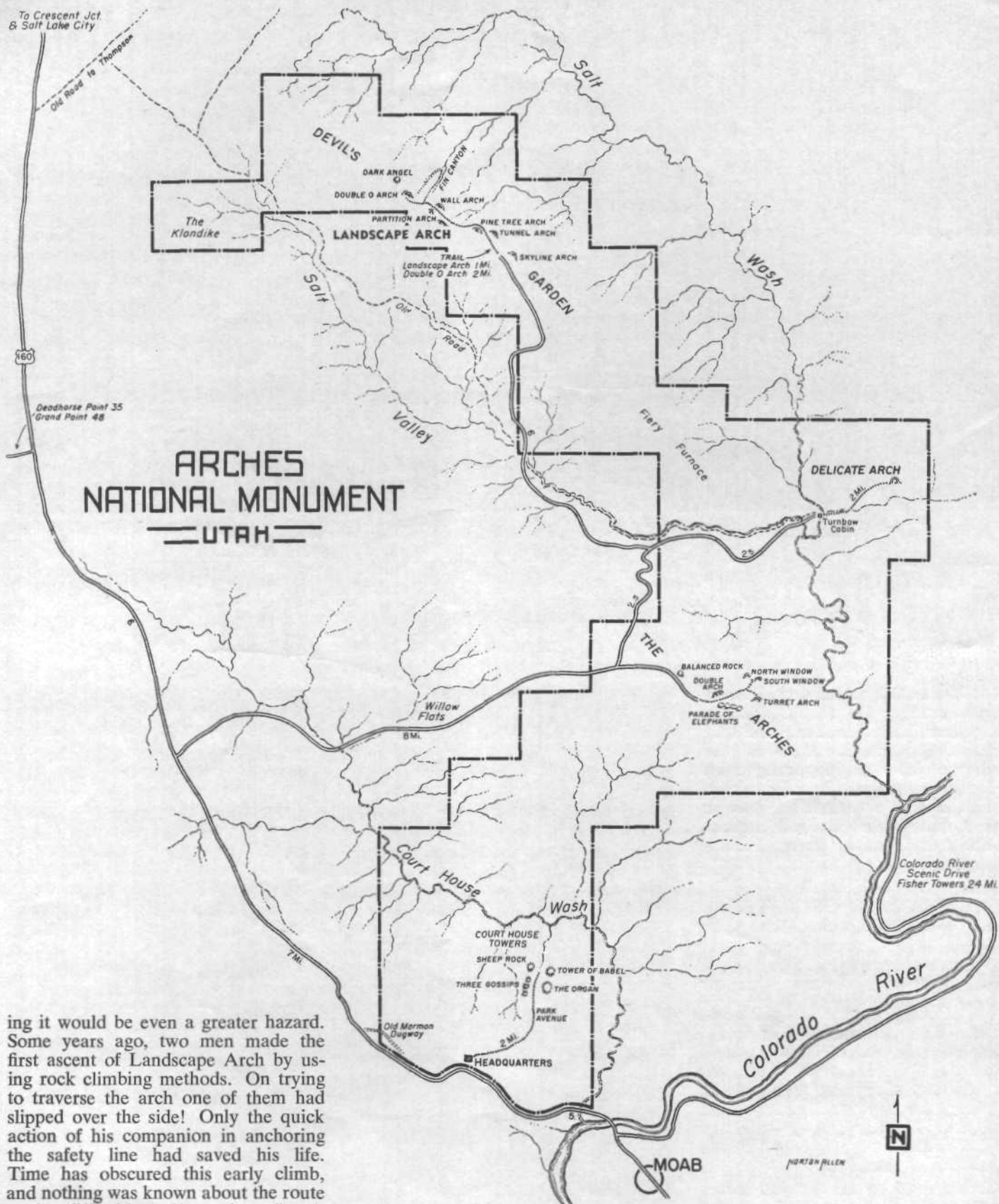
By CECIL M. OUELLETTE
Map by Norton Allen

"**I**T LOOKS impossible!" exclaimed Mike Borghoff. Jim Eslinger and I nodded agreement. We were huddled around a pamphlet on Arches National Monument which the ranger had just given us. On an inside page was a picture of one of the most fantastic formations on earth: Landscape Arch—and to a trio of ardent rock climbers the photograph was electrifying.

Believed to be the longest natural stone span in the world, Landscape Arch has a length of 291 feet. To get up to the arch would be difficult and dangerous, the ranger said, and travers-

The author, center, and fellow rock-climbers Jim Eslinger, left, and Mike Borghoff.





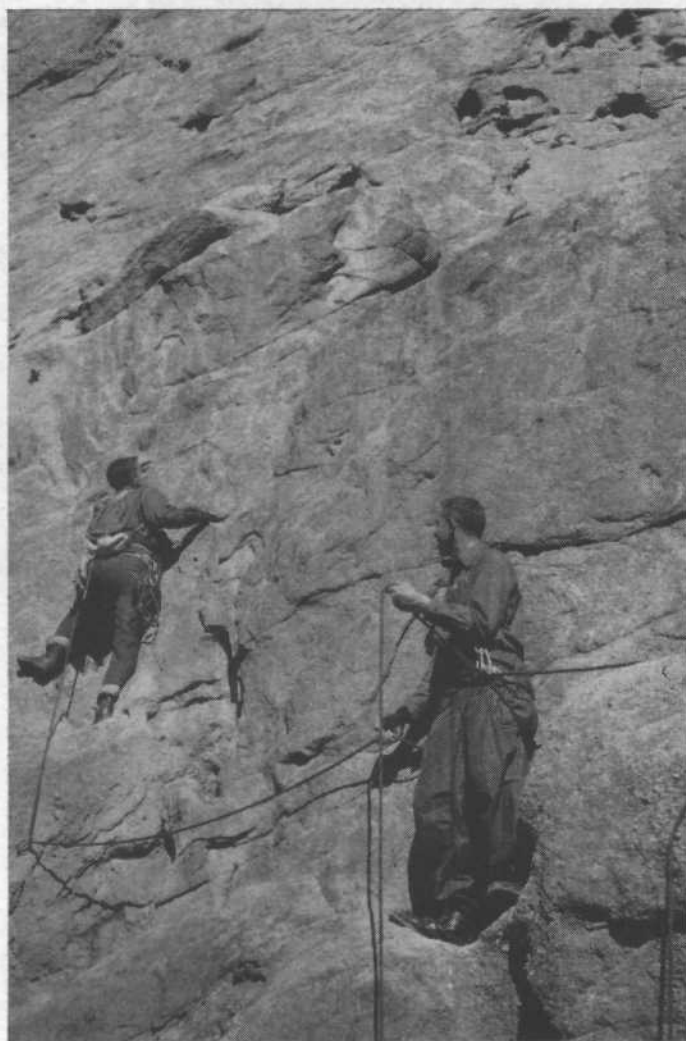
ing it would be even a greater hazard. Some years ago, two men made the first ascent of Landscape Arch by using rock climbing methods. On trying to traverse the arch one of them had slipped over the side! Only the quick action of his companion in anchoring the safety line had saved his life. Time has obscured this early climb, and nothing was known about the route or its difficulties. Since then, Landscape Arch was left alone; nobody had dared to invade its lofty domain.

My intended question was unnecessary, for I could feel the excitement building up within my two companions. We were going to attempt the challenge of Landscape!

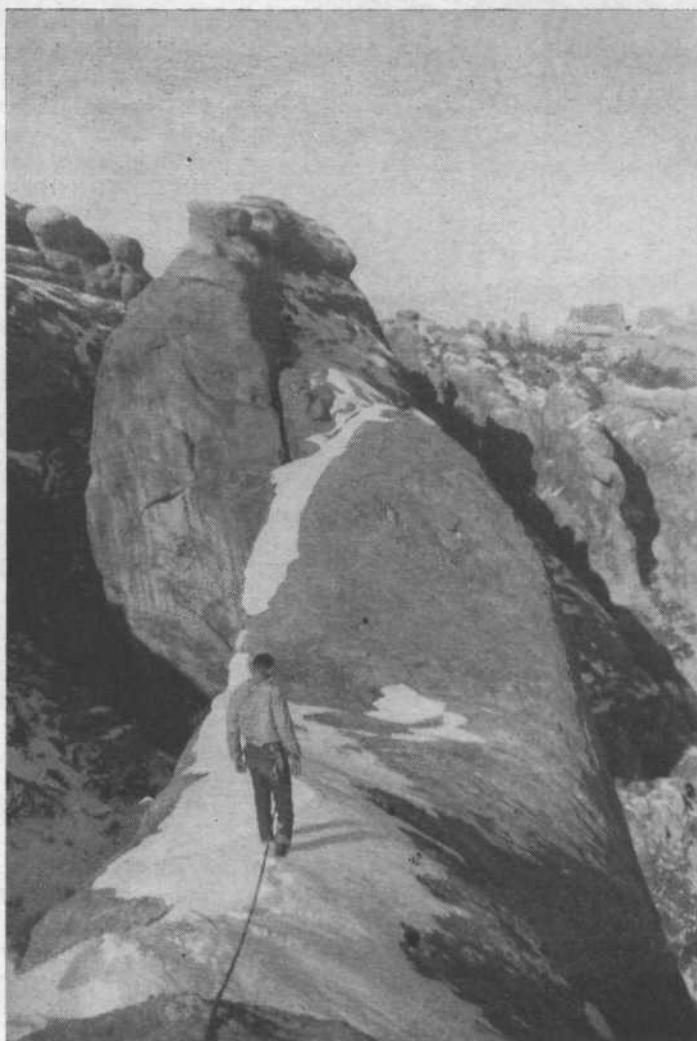
The park ranger granted us permission to climb in the monument for we were well experienced in the art of mountaineering. Jim Eslinger had made many ascents of high peaks in the Sierras; Mike Borghoff had climbed in the Alps, Tetons and on precipitous

pinnacles in Colorado; and I had just finished a summer of good rock climbing in three states.

The sun was setting behind a huge sandstone cliff as we left ranger headquarters and headed for the Devils Garden in the northern end of the



Jim Eslinger, right, is on belay while the author climbs upward on the south buttress of the arch.



The author starts off across the snow-spotted arch. At the far end the passage narrows dangerously.

monument. It is in this area that Landscape is located. In the oncoming dusk of this early December day I noticed small patches of snow lying in the sheltered spots.

We continued north from Moab, Utah, on U.S. 160 for 12 miles, then turned east on State Route 93. After an hour's drive over a dirt road, we entered the Devils Garden and found a bivouac site.

We were shouldering our climbing packs as the morning sun flooded the sandstone country with its light. In the packs were two nylon climbing ropes, karabiners (oblong steel rings with spring openings), pitons (thin wedge-shaped spikes with a circular hole or ring at the driving end through which the rope is passed, or to which a karabiner carrying a rope is attached), piton hammers, expansion bolts (small bolts placed in a drilled hole in the rock, with the same function as pitons) and a small amount of food and water.

A trail marker near the end of the road points the way to Landscape Arch. The narrow mile-long trail

passes through a weird wonderland of gigantic formations, and down avenues dwarfed by pinnacles that towered over us like huge skyscrapers. Pinyon and juniper trees dotted the rugged region. At our feet were bits of flint chipped from stone implements which prehistoric Indians fashioned here. Deer tracks cut across our path. The Devil's Garden is an enchanting wonderland!

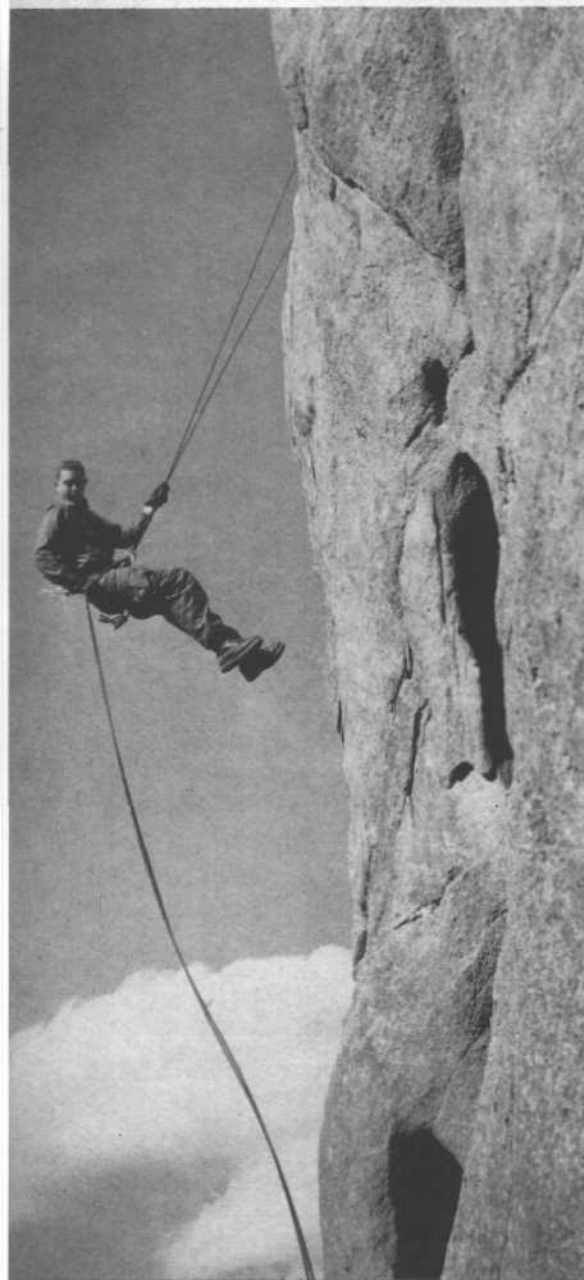
Then looming above us was a strip of sandstone that seemed suspended in mid-air! It was the massive structure of Landscape Arch, resembling a huge thread across the sky. We turned off the trail and passed under its thin shadow. Looking upward, the stone bridge towering above us seemed remote and far away.

To attempt an ascent of the right side of the arch appeared futile, so we moved to the left and searched the buttress for a route to the summit. We tried going up a crack or rift in the rock face, but it became too treacherous to climb. Moving around to the south face, we found what seemed to be a feasible route to the top.

We tied on to the common line and Mike led up a short crack. He climbed with perfect rhythm and balance to a small platform 35 feet above us. We were keeping the distances between us short because of the inadequate protection found in climbing sandstone which, because of its softness, does not always offer a secure hold for pitons.

Mike and Jim belayed me as I climbed upward, then I stemmed up another crack on the next lead and found a drilled hole for an expansion bolt. We were on the same route used by the first party years before. Slowly I inched my way higher up the south face, using the lone expansion bolt for protection. I stopped on a ledge that was large enough for my feet and went on belay.

Mike brought Jim up, then climbed past me on the third and longest lead. I watched as he searched for hand and footholds, clinging like a fly to a smooth wall as he worked skyward. He wriggled up through a tight chimney, hammered in a piton and attached the rope with a karabiner, then



Coming down was easier. Jim Esslinger rappels down the north buttress of Landscape Arch.

scurried over a 30-foot friction pitch and past an overhang to the summit of the buttress. He belayed me up, and Jim followed.

Surrounding us was a sculptured country of beautiful natural creations. Coves carved in the rock, arches, colored cliffs and balanced rocks filled the sweeping panorama. In the distance the massive white towers of the La Sal Mountains glistened in the sunlight. And Landscape Arch shot away from the buttress across a 300-foot expanse of dizzy depth. Here before us was the long traverse — a traverse across the sky. It was only 300 feet long, but from our airy perch it seemed like miles over that void.

A gentle breeze tugged at our heels

as I started across the arch. The passage was covered with crusted snow in a few places, and the walking space was scarce. Half way out on the arch, I sat down and belayed Jim who was second on the rope. He moved slowly and delicately to my belay spot. Then I started on the last leg of that long and suspended traverse. Snow dotted the top of the arch which narrowed considerably. I hesitated before a place on the ridge where its width evaporated to a mere six inches. One side was a shear drop, the other sloped dangerously away into space. I adjusted my rucksack and tip-toed across the narrow 10 feet of stone. The passage was only wide enough for my boots. The lead was finished—I was standing on the far end of the arch.

I signalled to Mike and Jim, and they moved into action. Mike climbed down from the far buttress and carefully tested every footstep in the snow. Suddenly his right leg shot over the side of the arch! Mike threw his weight on his left knee as he fell and miraculously held his balance. He had slipped on verglas, a thin coating of ice hidden beneath snow which is dreaded by all climbers.

Jim waited for Mike's signal and then edged forward to the narrow

pitch, wavered uncertainly, collected himself, and spurted across.

Mike went off belay and started toward us. He halted before the 10-foot tightrope near the end of the arch and stomped his boots to knock the snow off the narrow passage. The sound echoed like a clap of thunder. Then quickly he moved across.

The next few minutes were taken up with handshakes, backslapping and verbal congratulations. We were the second party to climb and traverse Landscape Arch, and we had done it safely.

We ate a meager lunch and sipped some water from the canteen while the tension of the last few hours drained from our systems.

Then we set up a piton anchor and descended off the side in one long 110-foot rappel. I looked back at Landscape Arch, now glowing in the soft light of late afternoon. In my imagination I saw the three of us on that long and suspenseful traverse, and I felt again the freedom of that two-point contact on rock.

As we walked back to the car our spirits were as free as companions to the wind. The conquest of Landscape Arch had been an exciting and thrilling adventure.

Hard Rock Shorty of Death Valley



Shorty was in a talkative mood, and the dudes lounging on the lean-to porch in front of Inferno store were enjoying his yarns about the hot weather. He told them about the summer it got so hot Pisgah Bill's chickens were laying hard-boiled eggs, and about the July day when the temperature went so high the water in the spring up in Eight Ball creek started boiling.

"If Pisgah and me hadn't stretched a tarp over that pool to keep the sun from hittin' it the thing probably would o' boiled dry and we might o' died of thirst," Shorty explained.

"But doesn't it ever get cold here in Death Valley?" one of the tenderfeet asked.

"Sure it gets cold," Hard Rock replied. "I remember the winter a flock o' ducks landed on that little pond where we water the burros. Next morning it was froze solid an' them birds couldn't

fly away. Their feet wuz in a cake o' ice. We had duck meat in camp all the rest o' the winter.

"The coldest spell we ever seen was back in '93. Really got cold that winter. Pisgah started a bonfire near the pool so we could get water fer makin' coffee. But it got so cold them flames froze right there in the air.

"Then Bill got one o' them smart ideas o' his'n. He got the sledge hammer and started bustin' 'em up. 'They'll make good kindlin' wood fer the cabin,' he explained.

"So he stacked 'em in one corner of the shack 'til they thawed out. But one day in March it suddenly turned warm, and while Bill and me was down in the mine shaft they started burnin' again — and when we came outta the hole that evenin' we had no cabin."

Papuan's Lost Placer Mine

The Mohave Indian Chinkinnow always had gold with which to buy supplies from the white traders—gold that came from a concealed diggings supposedly in the desert mountains west of Blythe, California. Although many men tried, none ever learned the secret Chinkinnow inherited from his foster father, Papuan. This is the tale as recorded by Legend only a few years after Chinkinnow's death.

By DOROTHY ROBERTSON
Map by Norton Allen

IT WAS IN 1926 while on a prospecting trip along the Colorado River in the Needles to Blythe vicinity that my husband first heard the story of Papuan's gold diggings.

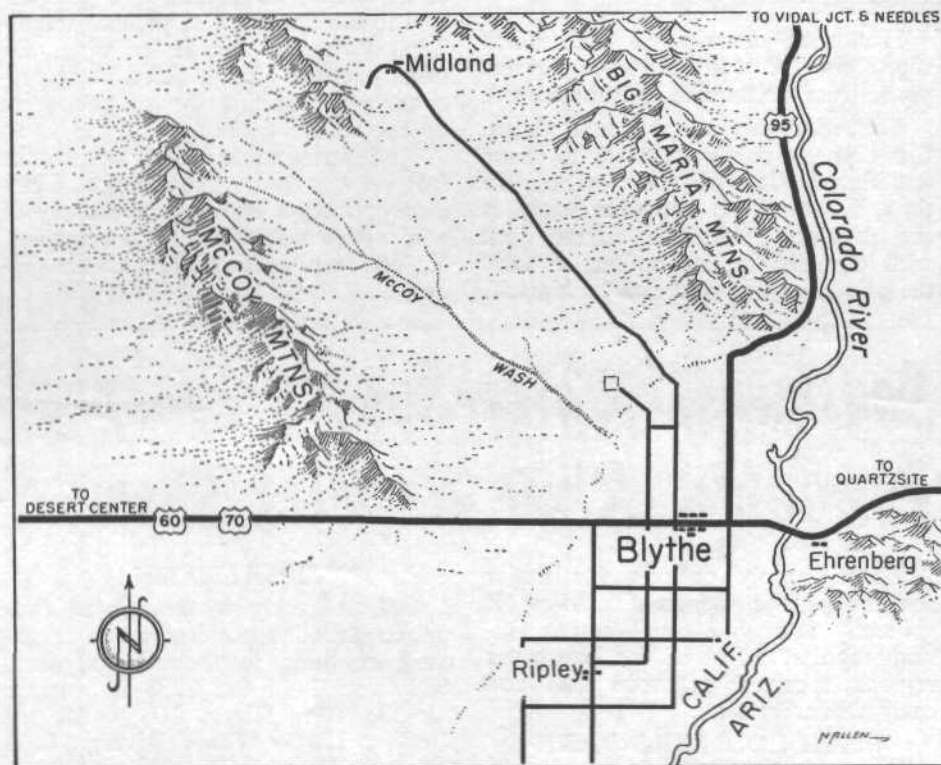
The legend of this lost treasure still was unfaded, for as recently as 1921 and perhaps even later, Chinkinnow, Papuan's adopted son, came regularly to Blythe and nearby Ehrenberg for supplies—and he always paid in gold!

When Chinkinnow visited these little desert settlements on opposite sides of the river, he was warmly greeted and followed about in the hope that he might let slip a clue to the location of his foster father's gold diggings.

The story of Papuan's gold goes back to the early 1860s when he was chief of a small band of Papagos living in the wild mountains of southwestern Arizona. In the continuing struggle for existence against the marauding Apaches, all of Papuan's followers eventually were killed. Knowing that he could not survive among his enemies alone, Papuan fled to the camps of the Mohave Indians on the Colorado River in Yuma County. The Mohaves were the only tribe in the territory that had treated his people with anything approaching friendship.

There Papuan married an outcast Mohave woman and in time both he and his wife gained a more stable position in the Mohave society. His wife valued the newly-secured honor which came with marriage, and to show her appreciation she told Papuan a secret which she alone knew.

Slipping away in the night, the Indian couple went into the mountain range west of Blythe which later came to be known as the McCoy Mountains, after Bill McCoy who ran a Government post store at Ehrenberg in the



1860s. When they returned to camp, Papuan and his wife had much gold which they shared with the other Indians. The tribesmen bought supplies from the white traders with it and the overnight spending spree created a considerable stir in the area. But Papuan and his wife kept their secret well, outwitting any and all who tried to follow them about.

More trips to the mountains followed and during this period storekeeper McCoy amassed a modest fortune—\$75,000 in gold nuggets.

Although the trader and many others tried cajolery, bribery, fire-water and threats, the Indians remained uncommunicative, and eluded pursuit when placing in the mountains, successfully covering their tracks and all traces of digging.

The others of the Mohave tribe could not sell the secret even had they wished, for they too were unaware of the exact gold site. McCoy even sent men to trail the Papago, but that also failed. The Indian and his wife were too clever.

In 1886 the Apaches descended upon the Mohaves. Although he was an old man, Papuan, as befitting a warrior, took up arms for his adopted tribe and was killed in the battle. His wife escaped.

Twenty years later a brawny middle-

aged German named Hartmann wandered into Ehrenberg. When he heard of Papuan's lost gold site he methodically began collecting all the available data pertaining to the tale. And when he learned that the Papago's wife still was living at the river settlement and knew, supposedly, the mine's location, he proceeded with great excitement to lay his trap.

Hartmann sought out the old woman and craftily began a campaign to win her friendship. He told her she was like his own mother who was long dead, and he waited on her hand and foot. His service to the woman stretched out over a period of several months.

In the meantime he found out that the Mohave, Chinkinnow, who also lived near the settlement, was the adopted son of Papuan. Sensing a possible rival for the inheritance of the secret, Hartmann proceeded to discredit the man. But, the old woman turned a deaf ear to his blandishments.

One cold winter day she took ill. Hartmann begged her to tell him the secret before she died, pointing out all the good he had done for her.

Relenting, she told him all she could: she and Papuan had camouflaged the mine too well—Hartmann would never be able to find it from spoken directions which no longer

were clear in her mind; he would have to be taken there.

"But who can lead me to the mine?" he demanded.

"Chinkinnow," she whispered, "— he knows."

Hartmann smoldered with black rage. Now he would have to buy his peace from the man he had discredited!

Following the old woman's death, Chinkinnow coldly refused to have anything to do with the German. In time, however, he accepted some of the presents Hartmann offered, but with one excuse or another he kept the secret of the gold site to himself.

His most frequently used reason for not telling was that the departed spirits would hold him responsible and be displeased!

In the ensuing years Chinkinnow many times took gifts to lead prospectors to the site, only to pretend forgetfulness when he neared the mine. On other occasions he dribbled away precious water forcing the party to give up the search and return to the river.

And during all this time, despite the fact he was under surveillance, Chinkinnow always had a good supply of gold with which to pay for his supplies. No one ever followed him to the diggings.

Some people formulated their own ideas as to where Papuan's gold diggings are situated, going so far as to insist the wily Indians backtracked in order to throw pursuers off, and that the placer mine actually is on the other side of the Colorado somewhere on the southwest side of the Castle Dome Mountains.

My husband prospected the mountainous terrain along the river and he favors the McCoy Mountains as the most likely site of the gold. Although he and other prospectors have made a few minor strikes in this range, so far the mystery of Papuan's treasure horde remains unsolved.

Southwest Water-Supply Prospect Favorable, River Reports Show

Water-supply outlook for major streams of the Desert Southwest is generally favorable, the Weather Bureau reports. Most of the headwater regions received generous fall and early winter rainfall.

UPPER COLORADO BASIN

Flow of the Colorado River near Cisco, Utah, at year's end was 136% of the 1938-52 average. From 90% to average water-year (November, 1957, to June, 1958) streamflow is forecast for the headwaters of the Colorado above Glenwood Springs, Colorado. Streamflow for the Gunnison Basin is expected to be from 115 to 120% of the 1938-52 average. Slightly above average runoff is forecast for the Dolores Basin.

The Green River Basin's water-supply outlook varies from near average to 120% of average for streams in Colorado; near average for Wyoming tributaries; and in Utah, near average for the lower Duchesne and Price rivers, 110% of average for the upper Duchesne River and Huntington Creek.

Outlook for the San Juan Basin is for 105% of average for Colorado tributaries; 95% of average for the main stem at Farmington, New Mexico.

LOWER COLORADO BASIN

Precipitation averaged above normal over the Verde River and Tonto Creek basins; near normal over the lower Little Colorado Basin; and below normal over the upper Gila and Salt River basins. Runoff forecasts are: 50% of average for the Little Colorado at Woodruff, Arizona; 50% for the Gila; 96% Verde River; 92% Tonto Creek; and 57% Salt River above Roosevelt, Arizona.

GREAT BASIN

Fall and early winter rainfall over the Great Salt Lake Basin was checked, resulting in these runoff forecasts: 95% of the 1938-52 average for the Bear River; 105% for the Ogden; 110% Weber River; 114% inflow to Wanship Reservoir; near average for the Six Creeks near Salt Lake City; 107% Provo River at Vivian Park; 98% American and Spanish Forks; 95% inflow to Utah Lake.

Favorable precipitation resulted in above average water-supply prospects for the upper Sevier (105-120%) and lower Sevier (90-111%) basins; and for the Beaver River (118%).

The Humboldt River at Palisade, Nevada, will have a 72% of average runoff, the Weather Bureau predicts. Precipitation was much heavier over the northwest portion of this basin and the runoff forecast for Martin Creek near Paradise Valley, Nevada, is for 129% of average.

Precipitation averaged near to slightly above normal over the watersheds of the Truckee, and below normal over the Carson, Walker and Owens rivers. Inflow to Lake Tahoe is predicted at 90% of average. Carson River streamflow is expected to be near 70% of average; West Walker River near Coleville, California, 90%; and Owens River near Bishop, California, 90%.

Water-supply outlook for the Mojave River Basin in California is for less than 75% of average.

RIO GRANDE BASIN

September-December rainfall over this area was above normal. Streamflow for the Rio Grande and its tributaries in Colorado is forecast to be near or slightly above average. Water-

year inflow to El Vado Reservoir on the Rio Chama in New Mexico is expected to be 90% of average, while near average inflow is forecast for Elephant Butte Reservoir. Runoff of the Rio Grande at Otowi Bridge is expected to be near average.

November-June streamflow of the Pecos River is forecast to be from near to 125% of average. Predicted inflow to Alamogordo Reservoir is 123% of average.

Public Facilities Being Added To Mitchell Caverns State Park

According to information received from the California Division of Beaches and Parks, Mitchell Caverns State Park in San Bernardino County will be opened to the public as soon as an additional water supply is developed and improved facilities for the public completed.

The Caverns, located at the base of Providence Mountains 23 miles northwest of Essex, came into state custody November 9, 1954, but owing to legal complications resulting from the death of Jack Mitchell while negotiations were in progress, the ownership of the property did not pass to the state until January 4, 1956.

State Park Rangers Orville G. Short and Walt Palmer are stationed at the Caverns making the improvements which are regarded as necessary before the public is invited to visit the new park. In the meantime negotiations are in progress to acquire federal lands which will increase the size of the park from 82 to 16,000 acres.

Largest of the two caverns is 200 feet long and averages 35 feet in height. In both caves are spectacular exhibits of flowstone and dripstone. Evidence has been found that the Chemehuevi tribe of Shoshonean Indians once occupied the caves. The University of California is now in the process of classifying artifacts found there.



Four Squadron jeeps halt on roadside awaiting orders that will be radioed by search planes overhead.

Minute Men . . . In Jeeps!

Ready to serve at any hour when emergency demands, the 41-member Washoe Jeep Squadron of Reno is an invaluable component of the Civil Air Patrol. The Squadron's main mission is to help locate downed aircraft and airmen in the trackless westcentral Nevada and adjacent California desert regions, but its work does not stop there. Hauling feed to starving deer, relocating a pioneer trail or cleaning up a campsite are all in a day's work for members of this volunteer service organization.

By NELL MURBARGER
Photographs courtesy
Washoe Jeep Squadron

7N DECEMBER, 1951, Swedish Air Scientist Karl Ovgard took off in a glider from a point near Lone Pine, California. The winds were right and in moments the ill-fated craft soared out of sight. When the eminent airman failed to return after a reasonable length of time, the Civil Air Patrol flashed an alert to Reno asking for help of the Washoe Jeep Squadron in the search that it had ordered.

Before the crashed glider and dead

Thomas C. Wilson, squadron commander, does his own camp cooking when the patrol is out in the field.





Part of the squadron camped in Smoky Valley while on a rescue mission.

pilot were located, the Reno jeepsters participating in that mission logged 10,000 vehicle miles on a quest that covered Death Valley, Panamint Valley and the Amargosa Desert.

Although not ordinarily called upon to render service so far from its home base, activities of this remarkable jeep service group have included a wide range of emergencies quite apart from its primary function of searching for lost aircraft and rescuing crash survivors. During the eight years of its existence, the Squadron's 18 jeeps and 41 members have searched for missing children; rescued injured hikers, hunters and flood victims. Periods of heavy and prolonged snow found Squadron jeeps transporting emergency hay rations to starving deer herds; fish and game conservation work has been aided; historical trails retraced and marked; landmarks explored; and good outdoor sportsmanship practiced and promoted.

Many of these meritorious activities had come to my attention through news stories. Friends had mentioned other laudable but unheralded Squadron services, and editorials in Reno newspapers testified to the fact that this organization enjoyed the respect and approval of its home town. It was not until last summer that I had the opportunity to meet Thomas C. Wilson, founder, present commander and perennial mainstay of the Squadron.

Owner of Nevada's largest advertis-

ing agency—as well as director of this and chairman of that—Tom Wilson is one of the busiest men in Reno. But like other busy men, he seems to possess a magical formula by which he can “make” time for any interest or cause that lies close to his heart. With Tom Wilson, that means the Washoe Squadron.

My arrival at the Wilsons' attractive ranch-style home in the southwest outskirts of Reno found Tom and his wife relaxing on the lawn. Tom could have passed for any prosperous suburbanite anticipating a peaceful weekend of golf or other respite from the strain of office and business affairs. But for him and other members of the Squadron there is no assurance that a weekend or any other period of time will pass peacefully and uneventfully. Emergencies don't give a hang whose plans they disrupt!

Squadron members, like volunteer firemen, are on call around the clock. Even as we sat on the Wilsons' pleasantly cool lawn and talked of old trails, ghost towns and other topics of mutual interest, Tom's jeep was standing in the driveway like a Minute Man's horse—saddled and bridled, as it were, and ready to go.

Painted in the prescribed yellow and blue Squadron colors and bearing a large number on its top to afford identification from the air, the sturdy little vehicle was in A-1 mechanical condition, fully fueled and completely

outfitted. If an emergency had arisen during our visit, Tom and his jeep would have been rolling in a matter of moments. Elsewhere throughout the city, said Tom, 17 other yellow-and-blue jeeps also were prepared for any eventuality.

In view of the successful manner in which it functions and the commendable nature of its work, it is surprising to note that except for a similar but later organized group at Fallon, Nevada, the Washoe Jeep Squadron is the only one of its kind in the United States. True, there are numerous other worthwhile civilian jeep groups—some of them affiliated with sheriffs' offices and other official and non-official agencies—but the two Nevada squadrons are the only ones in the nation operating under the direct orders and auspices of the U. S. Air Force and its auxiliary, the Civil Air Patrol.

As a lieutenant colonel in CAP, Tom Wilson felt there was a definite need for admitting to membership in that organization not only working pilots, but men who had never been pilots or who no longer wished to fly. The services of such men would be valuable, and he felt that these individuals, in turn, would benefit from membership in CAP. Since CAP maintains land rescue teams whose services are coordinated with air-borne units, the Reno advertising executive conceived the idea of a volunteer jeep-mounted ground force to aid air search of rough terrain.

Tom's plan eventually was approved by the Washington, D. C., headquarters of the Civil Air Patrol, and in 1950 the Washoe Jeep Squadron was born.

Fourteen of the Squadron's charter members still are affiliated with the group. Although any adult male citizen of Washoe County is eligible for membership, there are certain basic requirements. Not only must a prospective member be in position to drop his work at any time to join a hastily recruited search party; he must be willing to have his past and present activities minutely investigated by the FBI. The candidate also must be trained, and agree to abide by all rules and regulations of both the Squadron and CAP. Any man meeting these requirements—whether he works for day wages or is a millionaire—becomes a squadron member upon payment of the \$6 annual CAP membership fee.

Ages of Squadron members range from 21 to past 70, and trades and professions currently represented include radio and telephone company executives, school teachers and students, former president of the Washoe County Medical Association, retired lawyer and judge, real estate broker,

motel and coffeeshop owners, mortician, civil engineer, construction foreman, roofing contractor, carpenter, accountant, gunsmith, truck driver and handyman.

Learning that a plane has been forced down in rough mountain or desert country within a 200-mile radius of Reno—or even farther away under extreme circumstances—the Civil Air Patrol or Air Force may summon the Squadron into service. Immediately upon receipt of the alert, the Squadron's operations' officer mobilizes every available member — telephoning each at his home, office or place of business.

Upon arriving at the pre-determined assembly point in the presumed vicinity of the crash, each jeep, by means of its assigned number and two-way radio hookup, is under constant orders from scouting CAP aircraft. These pilots direct every phase of the search.

One jeep crew may be dispatched to a sheeptender's camp in quest of a possible lead; another may be sent to a lone mining camp which the searching CAP plane has spotted on the other side of a ridge; a third jeep may be directed into a willow-screened wash to search for traces of the missing aircraft. And, of course, when the wreckage is located, it usually is the jeepsters who reach the scene first and render aid to survivors.

Although most searches are completed within two or three days, the longest sustained mission in which the Washoe Squadron participated — the search for Karl Ovgard — extended over an entire week.

Time and effort of Squadron members are given freely and without thought of remuneration. Only the expense of gasoline and lubricating oil consumed in the course of an officially-ordered search is reimbursed by

the Civil Air Patrol. The vehicles and other equipment used by the Squadron are supplied and maintained at the personal expense of each member. Each jeep must be painted in prescribed colors and have its official Squadron number displayed on its top in large black numerals; otherwise its body style may follow individual choice. Of the jeeps in current use by Squadron members, six are station wagons, five pickups, and seven standard jeeps. All are four-wheel-drive vehicles, and each is equipped with a two-way radio.

When on official duty each jeep carries, in addition to its driver, one or two observers or specialists assigned to that vehicle by the mission commander. Insofar as possible, the jeeps are paired off on assignments so one will be available to render aid in case of breakdown or bogging in sand or mud by the other. Since group travel

Squadron members are briefed during recent search mission. From left, standing, Professor Shepherd of University of Nevada; high school teacher Oliver Morgan; Dr. S. W. Landis, who served as a flight surgeon in Korea; biologist S. S. Wheeler; and civil engineer Homer Bronnecke. Seated on ground are Dr. Wesley Hall, surgeon; and Squadron Commander Tom Wilson (back to camera).



is not always feasible, however, each jeep carries adequate tools, water, fuel, food and equipment to operate independently.

To expedite emergency departures each vehicle must be kept loaded at all times with the mandatory gear, which includes a shovel, axe, rope, tow chain, tire chains, tools, five gallons of water, 10 extra gallons of gasoline, tent, tarpaulin, maps, first aid kit, ground signal panels, and three days food supply for two persons. Occupants of each jeep make their own food selection and do their own cooking, most of them carrying gasoline, Primus or charcoal stoves for this purpose. Besides the foregoing list, it is suggested that each jeep carry a saw, winch or heavy-duty jack, tent warmer, flares and spotlight.

Personal equipment required of each member includes a sleeping bag, canteen, knife, matches, compass, first aid and snake-bite kits, extra socks, heavy clothing, sun glasses, waterproof boots and pocket money. Suggested, but not mandatory, personal articles are field glasses, extra maps, camera, large knife, flashlight, Air Force fatigues and a yellow cap.

In addition to its search missions, conservation work and community service, the group meets monthly for a field training session which usually involves problems in navigation, rescue and first aid.

Of particular interest to me is the highly commendable work these men do in historical research. Besides exploring ghost towns and locating and marking pioneer landmarks and Indian writings, they have retraced early emigrant trails across Nevada.

Considerable controversy, for example, existed over the exact course of the Applegate Emigrant Trail from the point where it left the Humboldt River Trail, to Rabbit-hole Springs, about 30 miles distant. Interested in this lost section of the famous route blazed in 1846 by Jesse and Lindsay Applegate, 10 members of the Squadron, riding in five jeeps and carrying full camping gear, left Reno in July, 1952, to explore the area. Using as their guide the journal of J. G. Bruff, written in 1849 and published a century later by Columbia University Press under the title, *Gold Rush*, the jeepsters established a base camp in the disputed section and began their careful search of the ground between the Humboldt River and Rabbit-hole.

"We found Bruff's records to be extremely accurate," said Tom Wilson. "Driving up the same dry wash where Bruff had led his wagon train 103 years before, we came to our first

major enigma: Where had Bruff left the wash?"

After lengthy conjecture and reconnoitering, the party climbed to the summit of the Antelope Range for a better look, and there decided upon the larger of three gullies as the most feasible course for the trail to have taken.

"The gully bore faint traces of what could have been wagon tracks—but we knew any sheeptender's wagon could have made those markings. Neither was there much chance of finding any iron or wooden relics to prove location of the trail, as such articles would have been washed away or buried by the heavy summer cloud-bursts for which this area is noted.

"As we slowly worked our way down the wash, we found a place where the gully cut through a dike of shale rock, and we knew that here was our chance! If hundreds of iron wagon wheels had crossed this dike, it was certain that they would have left some mark.

"Falling to work with our shovels, we carefully cleared away the accumulated overburden and uncovered two ruts deeply worn into the solid rock! They were spaced slightly farther apart than our jeep tracks, were about nine inches wide and a foot deep, well-rounded on the bottom, and very smoothly worn. Since it would have required considerable wagon traffic to cut troughs of such depth, we knew for certain that we had found the old trail. Now that we had knowledge of exactly where the route crossed the Antelope Range, it was easy to follow the weathered ruts down the west slope of the mountains and on to Rabbit-hole Springs.

"We learned later that the wagon ruts in the rock had been known to local prospectors, geologists and mining men, but evidently no one associated them with the Applegate cut-off, nor had the appropriate historical agencies been informed of their existence."

In addition to its official rescue work and unofficial historical research, occasionally the Squadron members take jaunts just for plain fun and relaxation.

"We look for gem and mineral specimens, and schedule a few hunting and fishing camping trips each year," said Tom. "We practice as well as preach conservation, and any of our men who made a habit of disregarding traffic safety or fish and game regulations soon would find themselves thoroughly unpopular with the others."

I asked Tom what he thought about the validity of the often heard complaint by some conservation groups

against the use of jeeps for mountain travel, contending that their terrific power causes them to dig up the ground, thereby despoiling the landscape and giving the forces of erosion a foothold.

"Only in extreme cases does a good jeep driver tear up the ground," he answered. "Most of the damage is done by immature drivers who are showing off. You won't find any of our people deliberately tearing up the ground—for one thing we think too much of our jeeps to mistreat them in such a manner.

"Personally, I think we have a fine group of men in our Squadron," said Tom Wilson. "We're affiliated with Desert Protective Council and try to live up to its precepts. We also strive to be good American citizens and good sportsmen. Wherever we go we clean springs, repair trails and burn litter left by campers and picnickers. This isn't an important phase of our program—we just like the good feeling that comes from leaving a place in better condition than we found it."

Despite the important and humanitarian service being performed by the Washoe Jeep Squadron, I have a feeling that this last mentioned phase of the Squadron's program—dismissed by Tom Wilson as "not important"—may be its most remarkable activity. If everyone would strive to leave each place in a little better condition than he found it, I suspect that most of the old world's ills would automatically be cured, and the law courts could close their doors.

ARTISTS McGREW, REED PLAN PALM DESERT SHOWS

California Artist R. Brownell McGrew is scheduled to exhibit his paintings at the Palm Desert, California, Art Gallery from March 1 to 23. The artist is recognized as one of the Southwest's foremost contemporary painters. "His skill," wrote one critic, "verges on the dazzling."

McGrew studied at the Los Angeles Art Institute under Ralph Holmes, and began painting the desert landscape in 1949.

Another prominent California artist, Marjorie Reed, plans a Palm Desert Gallery show during the month of April. Theme of Miss Reed's exhibit is the historical background of the Palm Springs area.

The admission-free Palm Desert Gallery is in the Desert Magazine Pueblo on Highway 111 mid-way between Palm Springs and Indio, and is open daily including Sundays during the winter season from 9 a.m. to 5 p.m.

Crossing of the Fathers

By JOSEF and JOYCE MUENCH

In the same month that the American Declaration of Independence was signed, a Spanish party of exploration set out from New Mexico in search of an overland route to the Pacific Coast and Monterey. It was led by two Franciscan padres, Silvestre Escalante and Francisco Dominguez.

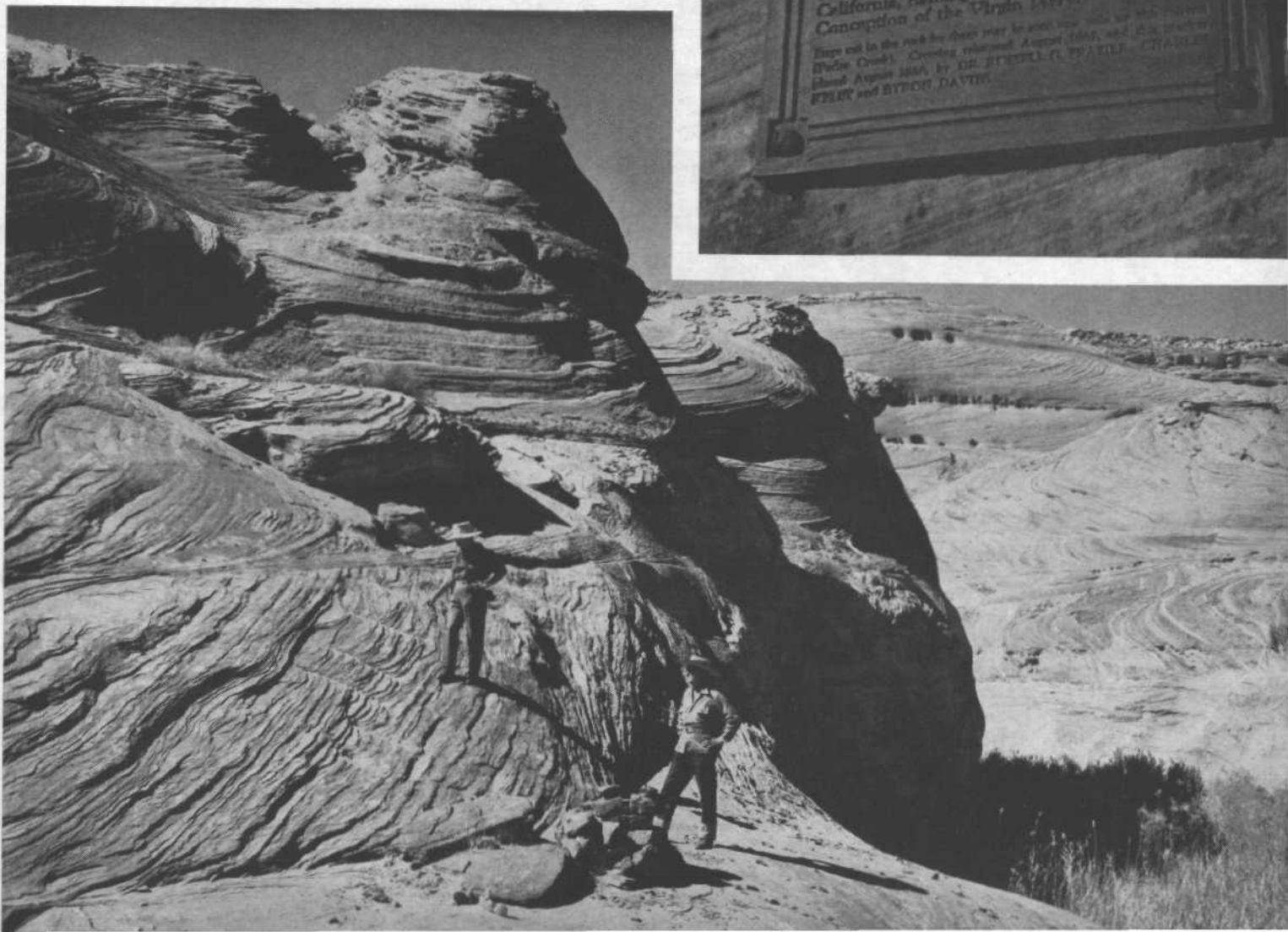
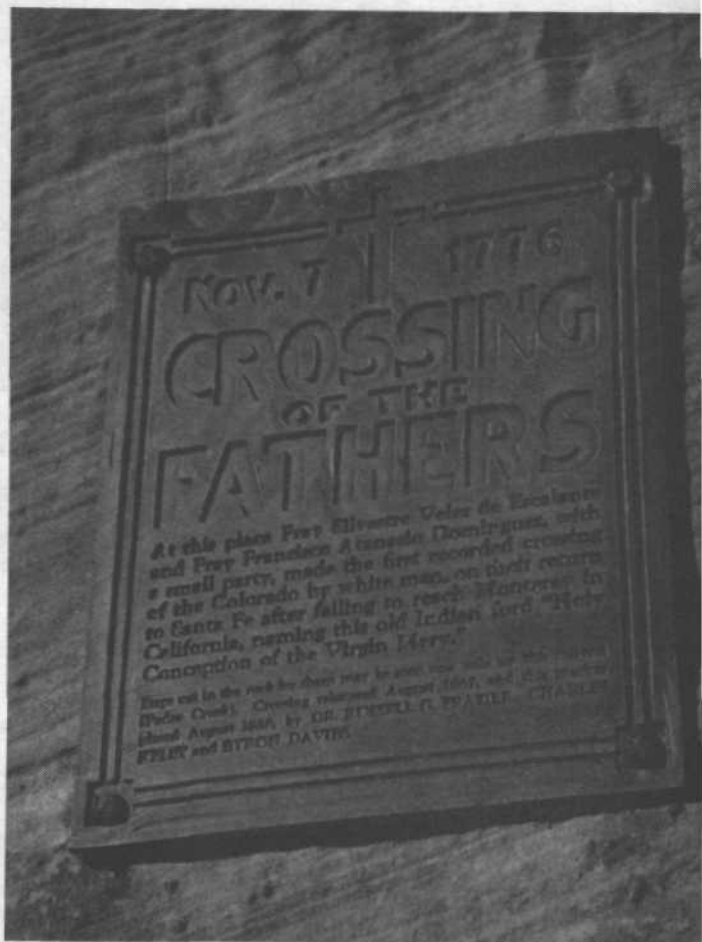
Marching north and west, the Spaniards crossed the Green River and entered Utah Valley in September. The threat of winter was upon them as they turned southward, and finally, after failing to strike a likely trail to California, they pointed their steps eastward toward Santa Fe.

Beyond the Virgin River they entered the rugged Southern Utah canyon lands and on November 7, 1776, the expedition forded the mighty Colorado River—first white men in history to do so. This feat was a fitting climax to the rugged journey.

The Crossing of the Fathers is 40 miles above Lee's Ferry and will be inundated by the waters of the Glen Canyon Reservoir.

Still visible on the swirling sandstone are the footholds cut by the Spaniards for their horses. At right the rock drops off to the creek leading to the Colorado River.

This plaque, set in the red sandstone walls of Glen Canyon, marks the narrow cut in the cliffs where Escalante's party forded the river. Memorial is accessible only by boat. Water backed up by the Glen Canyon Dam will inundate the Crossing.



Here Are Desert's Contest Winners . . .

Alphine Renslow's touching story of a dauntless Navajo boy, Lennie Begay, and his Christmas gift to her, is first prize winner in *Desert's* 1958 Life-on-the-Desert Contest.

"Lennie Begay's Priceless Gift," which won out over 54 other entries in the contest, appears below.

Mrs. Renslow is a Tracy, California, high school teacher. Her first teaching assignment was at a remote Navajo outpost where the incident with Lennie occurred. This too, was the setting for her January, 1957, *Desert Magazine* story, "My Pupils Were the People of Navajoland."

"These children," wrote Mrs. Renslow, "gave me my deep love for the teaching profession."

The members of *Desert's* editorial staff who were the judges, awarded second prize to Helen DuShane's "Enough for Two," the true experience story of an encounter with a group of Mexican Wetback laborers on a remote desert trail. The incident revealed to the author that while these men were breaking the secular law regarding entry into the United States; they faithfully served the greater and more fundamental convention evoked by the desert: never take a person's last drop of water.

Mrs. DuShane's story will appear in the April *Desert Magazine*. She is a resident of Altadena, California. Her "Marine Treasures from the Beach at Punta Penasco" was published in the October, 1957, *Desert*.

In addition to the prize-winning stories many of the 55 manuscripts submitted in the contest are worthy of publication in *Desert Magazine*. The authors of these have been given honorable mention awards and the manuscripts will appear in future issues of *Desert*. They will bring to these pages in the months ahead a graphic cross section of life on the desert — stories which reveal many of the fine facets in human character

as it reacts to the often difficult problems of frontier living. Following are the authors whose stories have been accepted for publication in future issues of *Desert*:

"A Sing for Atsa Gay" by Joe Kerley, Winslow, Arizona.

"Mr. Horny-Bee" by Gerald Kincaid Street, Coachella, California.

"Pinyon Jays for Pets" by Laurence M. Huey, San Diego, California.

"Before I Went Away to School" by Chester Yellowtail as told by Mrs. Hal Kelley, Riverside, California.

"Night in Gate Canyon" by Barbara Hammen, Missoula, Montana.

"Navajo Hospitality" by Martha Shaw, San Gabriel, California.

"Feathered Friends" by Betty Lipscomb, Thousand Palms, California.

"Second Chance" by Margaret Reynolds Arensberg, Riverside, California.

"Chinde Sickness" by Inez H. Goss, Prescott, Arizona.

"Death Valley Saga" by Eva Nidever, Borrego Springs, California.

"Quicksand and Locoweed" by Billie Williams Yost, Flagstaff.

"Life on the Colorado Desert" by Maud A. Minthorn, Northridge, California.

"The Desert Is Our Friend" by Dorothy Hitt, Modesto, California.

"Emily of the Desert Trails" by Dorothy Robertson, Ridgecrest, California.

"Life on the Desert" by Savola Fenley, Ridgecrest, California.

"First Day at School" by Elizabeth White, Flagstaff.

"My Friend, Packy" by W. I. Lively, Phoenix.

Lennie Begay's Priceless Gift

He was tattered and unwanted, but his classmates rejoiced in his merriment—and his teacher learned from him the worth of love.

By ALPINE RENSLOW

MOST BOYS whom we meet in our lives affect us only briefly — but there are those moments of rare magic when a small boy, like an irresistible puppy, wriggles his way into our hearts, and stays forever.

Lennie Begay was a little brown sausage of a boy, with sprightly molasses colored eyes. When I first saw him, his straight black hair was cut short and bristly. He was wearing a tattered pair of faded blue jeans, one pant leg torn off at the knee. His once red plaid shirt boasted only two broken buttons which long before had lost the struggle to keep Lennie's round little stomach from view.

Any self-respecting scarecrow would

have scoffed at his forlorn wardrobe; and yet after one look at those alert inquisitive eyes and that wise young face, his apparel was no longer of any importance.

The auditorium was crowded with Navajo parents busily enrolling their children at the Chinle government boarding school in the heart of the Navajo Indian Reservation. Lennie was standing beside a tall slender man registering two shy little girls who peered solemnly at me from the folds of their mother's voluminous skirts. When he finished giving the list of clothing that the girls had, the man roughly pushed Lennie forward, told me his name, and added that the clo-

thing the boy was wearing was the extent of his worldly possessions. He also said he thought that Lennie was about five years old because he was born when the corn was so high. This last remark was complete with gestures.

"Is Lennie your son?" I asked, attempting to fill in the remainder of the long government form. He shrugged his shoulders, and then said something in Navajo. The Indian boy who was my interpreter, laughed loudly.

"What did he say?" I asked impatiently.

"The boy is a squaw dance baby," the interpreter answered scornfully.

As this was my first day as a teacher, I had not yet become acquainted with the Navajo customs, and I had never heard of a squaw dance.

My interpreter explained that Lennie was an illegitimate child, and therefore was shuffled back and forth from one relative to another, his mother not being particularly interested in his welfare.

Uncertain parentage, however, did not seem to daunt Lennie. He was greatly interested in everything and everyone. When he was part of a group, the air was charged with excitement. The other children seemed to preface all their remarks with "Lennie said" or "Lennie did." He had an overpowering affinity for mischief. He couldn't quite decide whether or not to accept me until the fateful day I opened my desk drawer and curled my fingers around a wicked-looking lizard while searching for an elusive eraser. I didn't scream, so Lennie decided to like me. Somehow it is difficult to scream or even gasp when your jaws refuse to move from sheer fright.

After that he began bringing me an occasional offering of "kneeling down bread," a delicacy whose unsavory shade of green left much to be desired as a morsel of food. Usually there were large bites missing before they became my gift, but the smile that accompanied them more than compensated for the missing bits of nourishment.

Lennie's favorite school day was Friday when our class walked the two miles to the trading post. The other children who had spending money liked to buy loaves of white bread which they devoured rapidly, or bottles of bright red hair oil to use lavishly, smelling one another's hair with "oh's" of pure pleasure.

One morning after such an expedition, Lennie was unusually silent on the long walk back to the school. He moved along with his small head bent, and kicked at the small rocks in the path as he worried over his problem. That afternoon on my way back to the classroom from the office, I saw Lennie through the window, bobbing up and down like a cork in water, placing his hand on each child's head, and then in turn, on his own. When I walked into the room, he was sitting at his table grinning blissfully. By using a share-the-wealth plan, Lennie was now enjoying the luxury of hair oil without the pain of financial outlay!

At times the confining school walls would prove too much for this small freedom lover. The pungent smell of sagebrush, an inviting warm desert breeze, and Lennie would stand for hours staring out the windows, like a tiny caged bird, restless for the sky.

The next morning he would be gone, running away barefooted through the friendly night, to whichever relative was accepting him at the moment. He

always left his small scuffed shoes at the foot of his bed, silent testimony to shackles of unwanted civilization left far behind.

When Lennie was gone, the joy of living seemed to be dimmed. The walks and games lacked excitement. When it was time to sing there was no high voice singing just a little off key to give that special feeling of just how wonderful music really can be.

Several days later we would hear a happy cry from one of the children, and the entire class, including myself, would run to the window, everyone shouting, "Here comes Lennie!"

The recent runaway would come into the room, his grin irresistible, somehow knowing that staying angry with him was impossible. Once more he was taken back into our school family, and everyone was happy again.

Lennie's last run away act was just before Christmas. The children were terribly excited about the prospect of a Christmas tree for being the youngest ones at school, they had never seen one. They chattered for hours about decorating it. A few days before Christmas, the older boys brought in our tree. It was perfect, shiny and fragrant. The small brown fingers

touched it and the large wistful eyes loved it.

The tree, however, was not the only topic of conversation at that time. A very severe snowstorm was the tree's rival for attention. The outcome was inevitable—no Christmas mail could be delivered to us, as we were more than a hundred miles from the nearest town.

I was away from home for the first time on my initial teaching assignment, and beginning to feel very homesick. Now there would not be even a letter or gift to bring loved ones closer. As the children buzzed happily, decorating the gay cedar tree with bits of cotton for snow (an ironic reminder), I was so homesick that traitorous tears were trickling down my nose. As I hastily brushed them away, I saw Lennie looking at me, his usually merry face strangely solemn. He walked over to me, and placing his hand over his heart and then over my own, he wound his fat little arms around me, feeling for all the world like a small porcupine with his bristly hair rubbing against my cheek.

Lennie, who had known so little of it himself, knew the only present worth having was the priceless gift of love.

Contest for Photographers . . .

The rainfall of past months indicates that March will be a colorful month on the desert, for chances are excellent that millions of wildflowers will be blooming under the limitless spring skies. But, as miraculous and beautiful as they are, wildflowers are merely one of many attractions—and potential camera subjects—awaiting the desert photographer. If you tour the Southwest with a camera you should enter the best of your work in Desert Magazine's Picture of the Month Contest. You probably have many pictures either taken or in mind that would make excellent entries.

Entries for the March contest must be sent to the Desert Magazine office, Palm Desert, California, postmarked not later than March 18. Winning prints will appear in the May issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize, \$5. For non-winning pictures accepted for publication \$3 each will be paid.

HERE ARE THE RULES

- 1—Prints must be black and white, 5x7 or larger, on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—Entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA

He Discovered a Rare Cactus in the Chuckawallas

Here is the story of the discovery of one of the desert's rarest and most beautiful cacti—in a remote area in the Chuckawalla Mountains of Southern California. The discoverer was Andrew Halstead Alverson, botanist who tramped the arid lands of the Southwest in quest of cactus species more than half a century ago.

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum

IN THE SPRING of 1919 I was given an assignment to make a collection of desert plants for the United States National Herbarium. With a companion and three burros I traveled for six weeks over some of the least-known parts of the Colorado Desert of California. It was a journey of high interest because of the many wild places I saw, and the interesting people I met.

One warm mid-day we pulled into Mecca to re-outfit, and to have the five week's growth of hair cropped from our heads. We cached our packs and burros in a screwbean thicket near the small two-room schoolhouse. Then while the animals rested we replenished our supplies, mended our clothes and made preparations for another trek into the wilderness. Screwbean pods were lying under the trees in layers, in some places almost three-inches thick, and our burros had the time of their lives eating the nourishing tornillo pods. It was indeed a time of comfortable laziness.

On the afternoon of the second day we had a strange visitor. We heard him talking and shouting to his pack burros long before he came into sight. When he entered the school yard and spied me sitting in the shade mending my saddle, he broke into words of wild but warm greeting, and leaving his five animals to fend for themselves, came running up. Without a word of introduction whatsoever, he declared: "So you're the professor that's come to Mecca on a plant prospecting trip! I heard about you at the postoffice. Well, well—so you're a prospector, but not a rock prospector like I am. But, I'll

bet you a meal of chili beans that you don't know what an Alversonii is."

"I think I do," I answered, "but who are you?"

To which I got the quick reply: "Frank Coffey ('Burro Man of the Desert,' *Desert Magazine*, March, 1951), a prospector of minerals and a good one. I've been in town from Dos Palmas where flows the famous Milk Spring."

Before I could put in a word he added: "So you know what an Alversonii is! To know that you must be a real professor. Now what is it?"

"A kind of cactus from the Chuckawalla Mountains," I hurriedly answered.

"That's right!" Coffey boomed. "And that being the case, I welcome you right heartily to our big Colorado Desert."

"You've got to bring yourself and your jennies and jackasses to Dos Palmas to have a big visit with me. Yes, with Frank Coffey, the good ragged-pantsed prospector who knows his rocks. Your burros can visit with my burros; we'll make up some pots of coffee and a big stew and swap lies

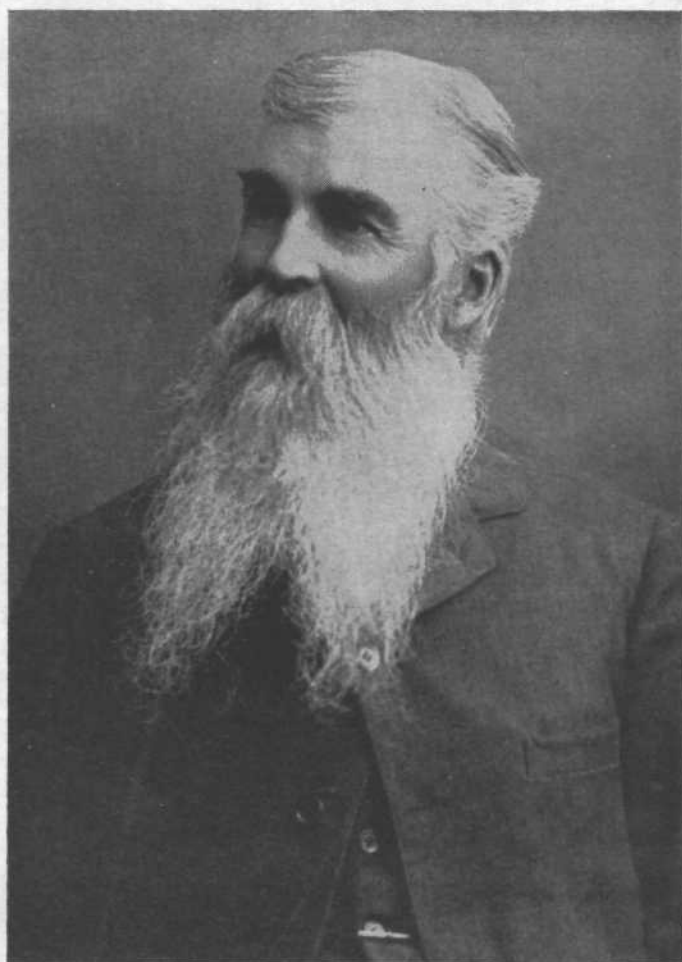
and ideas for a week. Moreover, I'll tell you all you ought to know about how I first saw an Alverson cactus. Oh, what a pretty one it is!"

Coffey next launched into one of the long stories for which he was famous, and for a while I thought he was going to have his week's visit with me right there at the old Mecca school.

But all of a sudden and with no announcement of his plans, he ran into the brush, rounded up his beasts, and with an, "Adios, I'll see you professor—tomorrow at old Dos Palmas," left in the direction of his home and his famous Milk Spring, so-called because of "its velvety waters that feel as mildly warm as a mug of fresh milk from a jersey cow."

Andrew Halstead Alverson, through his interest in minerals, traveled extensively and took up mining claims in the Panamint Mountains on the Mojave Desert, and near Dos Palmas on the Colorado Desert. It probably was at the latter location that he met Frank Coffey.

The two set off on an exploratory journey to the Chuckawalla Mountains in April or May of 1893—the



A. H. Alverson, early San Bernardino cactus fancier.

garrulous Coffey, who had established a reputation for knowing the desert well, acting as guide, the sedate Alverson collecting cacti. From near Mecca they traveled up Salt Creek Wash past Canyon Spring, thence to the Red Cloud Mine area, using Coffey's burros to carry their blankets and provisions. Striking north and east along the toe of the Chuckawallas, they came to Granite Wells where camp was made in a flat sandy wash amidst smoke and ironwood trees.

It was near there that they located the handsome nipple cactus which was to be described in scientific literature by President John M. Coulter of Lake Forest University, Illinois, as *Mammillaria Alversonii*. It was an event of profound importance to Coffey, and he never failed to mention it whenever he met anyone who exhibited even the slightest interest in desert plants.

Alverson was born in Wisconsin in 1845 and died in San Bernardino, California, in 1916. He came West as a young man to regain his health, and first settled in Lugonia, which later became a part of Redlands. There he opened up a shop for the sale of "jewelry, stationery, musical instruments, tobacco and cigars and toilet articles." Later his interest in the outdoors and mining took him on trips to the desert where he had increasing opportunity to study and collect cacti.

Eventually Alverson set himself up in the cactus and succulent business in San Bernardino. He propagated many domestic and exotic West American species, traded with cactus fanciers, and ultimately issued a neatly printed catalog. Soon his plant offerings were being shipped to many parts of the world, as far away as Sweden and Japan. He did an especially big business with cactus dealers in Germany, and when their large orders arrived he would make special trips into the desert to fill them.

I am the fortunate possessor of one of Alverson's catalogs, presented to me by his son. I am amazed at the modest prices he asked for the more than 200 species listed. Many of the plants were offered at 10 and 25 cents, and only a handful of the very rarest sold for more than one dollar—including postage and express charges!

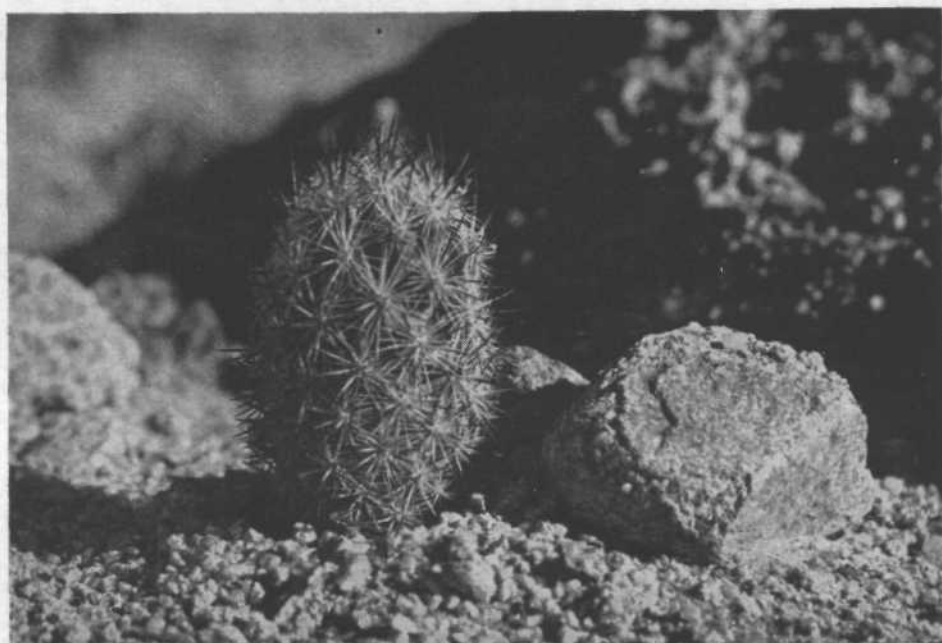
The few roads on the largely uninhabited California desert wilds at the turn of the century chiefly were used by miners and freighters hauling supplies and machinery to mines. These trails often were rough and sandy, and one traveled over them with considerable hazard.

Under his catalog listing of the rare and always startling white-spined Griz-

zly Bear Cactus (*Opuntia ursina*) which he secured at the northwest base of the Ord Mountains in San Bernardino County, Alverson, with evident pride and satisfaction, said:

"I am the first collector and dealer to place this remarkable plant before the public, which is no easy matter, growing as it does in the almost inaccessible dry desert regions where water and feed for the teams, as well as all camp equipment has to be transported over the barren and burning sands and rocks for days and weeks in heavy wagons or on pack animals. Often water gives out before other tanks or springs are reached; then intense suf-

tus fancier once found a cluster of this cactus with blossoms of "immaculate whiteness." Realizing that he had made a unique discovery, he propagated the rare species by means of cuttings, and sold it under the scientific name *Opuntia basilaris alba*. I can understand his great pride in having found this white-flowered beauty. In all my wide wanderings over our Southwestern deserts I have never seen this or any other *Opuntia* with pure white flowers. Alverson's catalog carries a photograph of the plant, offered for sale at "25 cents, 50 cents and \$1.00," depending on size of the cluster.



Young *Mammillaria Alversonii* cactus plant, named in honor of its discoverer. Photo by Gale Gustafsen.

fering ensues. Once our expedition was without water for two days. This plant cost me three separate expeditions before I found its hiding place."

In another place in the Cactus Catalog where he lists the rarely seen Hermit Cactus (*Echinocactus polyancistrus*) of the Death Valley area, Alverson again makes claim of being the first dealer to put an extraordinary cactus on the market:

"So rare is this plant that even the government exploring and surveying expeditions brought in only six plants; but by the most diligent search I have secured about one to each two million inhabitants of the United States!"

Probably the most widely photographed cactus blossom of our deserts is that of the regal Beavertail Cactus (*Opuntia basilaris*). Its delicate silky-petalled vivid rose-purple flowers are from two and one-half to three inches in diameter. The San Bernardino cac-

Alverson described the strangely beautiful cactus named in his honor (*Mammillaria Alversonii*) as having "60 to 80 stout gray spines tipped with black or brown, on each tubercle; fruit grayish green and edible." The large showy flowers produced at the summit of the thick cylindrical plant are a light purple or pink, the outer segments or petals prettily edged with hairs, and the numerous spines are sometimes pure ivory white throughout their length. This species was sold under the name Foxtail cactus.

The quite similar Desert Nipple Cactus (*Mammillaria deserti*), found in the mountains of the eastern Mojave Desert, has straw-colored flowers. In both species the stiff interlocking spines quite conceal the robust body of the plant.

During the "cactus craze" of the 1930s when it seemed that almost everyone wished to possess small col-

lections of potted cacti or cultivate them in hot houses, cactus dealers, in their desire to satisfy demand, almost exterminated some of the rarer species. They ransacked our deserts from one end to the other, removing so many plants that often few were left behind to propagate their kind.

One of the unusually fine cacti that almost suffered beyond recovery was the exceedingly long-spined Grizzly Bear Cactus, mentioned above. I first saw these plants in wide thick-set groves gleaming white in the desert sun. In two years time commercial and private cactus vandals had so de-

pleted the beds, having taken almost every plant, that to this day—30 years afterward—the species has never regained its early dominance of these areas.

I am told that Alverson was not given to such practices; but rather collected with much intelligence and good judgment. To increase his stocks he depended heavily on propagation from seeds, grafts or cuttings.

Almost every plant has a human interest story connected with it. Knowing these tales gives us new understanding and enjoyment of the plants in our gardens and open fields. Such knowl-

edge also helps us remember their names and structure. We gain new appreciation of the areas which are their natural habitats.

Knowing intimately these details about a plant makes us less likely to wantonly destroy or remove it from its native home. It is especially important not to uproot and remove such slow-growing cacti as the *Mammillarias*. Their small black or brown seeds are numerous within the fruits and are easily collected with no harm to the parent plant. With a little care they can be sprouted in a coarse sandy loam.

LETTERS

Shine Smith's Christmas Party . . .

Buck Rogers Trading Post
Cameron, Arizona

Desert:

I hope you will pardon me for being a bit late with this report on my Navajo Indian Christmas party. There were many details to take care of even after the affair was over—and at 75 years of age there are never enough hours in the day.

This was the 23rd annual party—and the greatest we ever had. If you think it a small matter to entertain 4000 to 5000 Indians, you have something to learn. No one knows exactly how many were there. They were scattered all over the landscape—and a Navajo is always the same, whether he comes in a wagon, an auto or on horseback. Many have not changed much since Kit Carson rounded up their forebears in Canyon de Chelly.

These parties seem to get bigger

every year, and this time we served food continuously for 24 hours—barbecue and stew. One truck load of vegetables came from Los Angeles—and the Navajos ate cauliflower and lettuce like ice cream cones. There was a truck load of oranges from Phoenix and six truck loads of presents. My usual shipment of blankets came from Ohio and every adult received one.

There is nothing on the desert just like these parties—not even the annual fair at Window Rock, and there are never any drunks at my Christmas affairs.

My Indian managers did all the work. I didn't let one white person take a hand nor did I say one word over the public address system. There were many whites around and they kept asking, "Can I do something?" But I always said, "No—these are 100 percent Indian parties."

These are my people—and they are poor people—not one of them has ever received a cent from oil or uranium royalties. But they are wonderful people, and the annual Christmas

party has become a legend to them.

My thanks to all those generous friends who contributed food and presents.

SHINE SMITH

Information for Supai Visitors . . .

Culver City, California

Desert:

I visited remote Havasupai Canyon in November, and readers of the article in the January *Desert* on this enchanting place may be interested in the following comments:

Most direct approach from the west is via a 62-mile stone-to-dirt road leaving U. S. 66 seven miles east of Peach Springs, Arizona. This road leads to Hualpai Hilltop at the head of an eight-mile trail to the village.

Horses may be arranged for by writing to Reed Watahomigie, tourist manager for the tribe, at Supai, Arizona. You also can phone the village by calling via Grand Canyon Village.

Limited accommodations are available at the lodge in Supai, and camping is permitted a mile or so down-canyon from the village.

JOHN W. KETTL

THE *Desert* MAGAZINE CLOSE-UPS

When Cecil M. Ouellette and his two rockclimbing companions, Jim Eslinger and Mike Borghoff, made their Landscape Arch conquest, they were attached to the Army's Mountain and Cold Weather Training Command at Fort Carson, Colorado, as skiing and mountaineering instructors. The story of that climb, "Over the Top of Landscape Arch," appears in this month's *Desert*.

Eslinger was a top student in Utah State College's Forestry School before joining the Army. He has made many ascents of 14,000 peaks in the Sierras.

Borghoff has climbed in the Alps, Tetons and in Colorado. He saw service in the Korean War where he was wounded in action. He plans to enter college after his enlistment expires.

Ouellette is an ardent mountain climber, photographer and writer. He has climbed Shiprock in New Mexico, Devil's Tower in Wyoming and a number of mountains in the West. His post-Army plans also include college where he hopes to study geography.

* * *

Sovereigns of the Sage is the title of Nell Murbarger's new book which is

now in the hands of the publishers and will be ready for distribution by the latter part of April. The new book is rich in human interest, being devoted to those hardy folks who have gone out into the frontiers of Nevada and Utah and developed ranches and mines—who have found health and happiness by hard work and sacrifice.

For many years Miss Murbarger has been traveling the lonely desert trails which lead to distant settlements, and since she herself spent her early years on the frontier she has much in common with the people she writes about.

Miss Murbarger's last book, *Ghosts of the Glory Trail*, is now in its second edition and is still finding active sale all over the country.

Here and There on the Desert . . .

ARIZONA

Tubac Is First State Monument . . .

TUBAC — The State of Arizona formally accepted a deed to the property on which are located the ruins of the original Tubac Presidio. Thus Arizona's oldest town—the presidio was built in the former Indian village in 1752 — becomes the state's first historical monument. The site was deeded by Mrs. Olga Griffin of Tucson who purchased the landmark for the purpose of donating it to the state.

New Copper Town to Rise . . .

RAY—Construction is scheduled to begin in April on a 600-home community to be located on the Gila River 12 miles south of Ray. The 5000-population townsite — referred to as "New Ray"—is being developed by the Kennecott Copper Corporation which has a mine at Ray and is completing a new smelter at nearby Hayden.

Navajos Deny Records to State . . .

WINDOW ROCK — The Navajo Tribal Council refused State Tax Commission auditors the right to examine tribal records. The Commission move, interpreted as the first step toward taxation of Navajo funds and eventually of individual Indians' incomes, closely followed a State Supreme Court ruling that state courts and state officials have jurisdiction over Indians and Indian land except in areas where the Federal government has reserved such jurisdiction.—*Phoenix Gazette*

Wyatt Earp Plaque Presented . . .

TOMBSTONE — A 60-pound bronze plaque of Wyatt Earp, famed Deputy U. S. Marshal of Tombstone's younger and wilder days, now is on permanent display at the Tombstone Restoration Museum. The plaque is the work of Lea McCarty.—*Tombstone Epitaph*

Hopis Critical of Navajos . . .

SHUNGOPOVI—Hopi Indian Tribal elders accused Navajos of usurping 1,500,000 acres of Hopi ancestral land, adding that white men are abetting the Navajos because of the land's oil potential. The Hopi leaders came out against a compromise suggested by Senator Barry Goldwater whereby a three-man tribunal appointed by the justice department would settle the long-standing Navajo-Hopi land dispute. The elders also attacked their own tribal council, which represents nine of the 12 Hopi villages, as a group of young men unschooled in old

religious teachings. Younger elements in the tribe have been seeking a compromise with the Navajos in the land dispute.—*Phoenix Gazette*

Tuzigoot Development Planned . . .

TUZIGOOT NATIONAL MONUMENT—Over \$300,000 is earmarked by the National Park Service for development and future improvement of Tuzigoot National Monument as part of the long-range Mission 66 Program. Planned are a modern road to replace the present dirt approach road and sub-standard bridge over the Verde River; trails; utilities; camp and picnic grounds; and exhibit improvements.—*Verde Independent*

CALIFORNIA

Palo Verde Dam Completed . . .

BLYTHE—Palo Verde Valley's 80-year battle to control the Colorado River was brought to a successful conclusion when the \$3,300,000 permanent diversion dam was turned over to the Palo Verde Irrigation District by the Bureau of Reclamation. Work was completed 41 days ahead of schedule and the cost was more than \$1,000,000 lower than early estimates. Total cost of the project, including a 21-mile-long drain and 30-mile levee on the Arizona side, will be \$5,156,000. The Arizona work is scheduled for completion this summer. — *Palo Verde Valley Times*

Joshua Park Purchase Approved . . .

LANCASTER — The purchase of 190 acres of Mojave Desert land for addition to the new Joshua Tree State Park six miles east of Lancaster was authorized by the State Park Commission. Price of the acreage was \$31,000. Condemnation proceedings on three other parcels totaling 197 acres also was ordered by the Commission. This action will increase the park's area to 2000 acres.—*Riverside Enterprise*

436,289 Braceros Entered U.S. . . .

CALEXICO—A total of 436,289 Mexican National agricultural laborers were admitted to the United States under contract during 1957. This was approximately 8000 less than came in 1956, a decrease attributed to the drouth followed by flood conditions in Texas, largest employer of Braceros. These farm laborers are used in 27 states with Texas employing between 180,000 and 190,000, and California approximately 150,000. Arizona, Arkansas and New Mexico use about 20,000 each.—*Yuma Sun*

County May Ban Billboards . . .

SAN BERNARDINO—A proposed new San Bernardino County ordinance would ban outdoor advertising along county and state freeways. If approved, the zoning law would set up a 500-foot restrictive zone on both sides of the freeways. Advertising that is visible to motorists would not be permitted in this zone, with a few minor exceptions. — *Victor Valley Press*

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Small Tract Compromise Seen . . .

JOHNSON VALLEY—San Bernardino County and Bureau of Land Management officials are working out a compromise plan for the first planned government jackrabbit homestead tract at Johnson Valley. Settlement of this area, located along Old Woman Springs road north of Yucca Valley, precipitated the main controversy a year ago. The compromise plan includes a complete future road system and recreational and school sites. Within the first Johnson Valley block are 1317 two-and-a-half acre and 194 five-acre tracts; 441 acres reserved for rights of way or set aside for drainage; and 132 acres for school and recreational sites. The tracts either will be leased or sold, depending upon what the Bureau of Land Management decides to do. The BLM said there are more than enough applicants to take all the available tracts.—*Desert Trail*

Monument Travel Increasing . . .

TWENTYNINE PALMS—A steady rise in the number of visitors to Joshua Tree National Monument in the post

war years was noted by park officials. Last year's visitor total was 320,267 — a 9.4 percent increase over 1956. The monument, open to travel the year around, generally has its heaviest travel in March, April and May. April, 1957, saw 51,033 persons visit, and 5457 camp in Joshua Tree. Visitors spent 27,729 days camping throughout the year.—*Desert Journal*

Sorority Fights Litterbugs . . .

JOSHUA TREE—Volunteer workers of the Beta Sigma Phi sorority began the first phase of an organized cleanup campaign along the beer can littered Twentynine Palms Highway. Members of the sorority hope that their initial community service effort will inspire other local organizations to follow suit.—*Desert Journal*

Salton Sea Rises Slightly . . .

SALTON SEA—Water surface elevation of Salton Sea rose .25 of a foot during December, bringing the level to 234.45 feet below sea level. The elevation of the sea was minus 234.50 feet on December 31, 1956.—*Holtville Tribune*

DESERT HOT SPRINGS—L. W. Coffee, 81, Desert Hot Springs founder, passed away on Dec. 27. The real estate promoter built his widely known Coffee's Bath House in 1933.—*Desert Sentinel*

NEVADA

Eight Bighorn Sheep Killed . . .

SHEEP MOUNTAINS—Preliminary reports indicate that eight desert bighorn sheep have been taken by hunters. The animals, all mature rams, were shot in the Sheep Mountains portion of the Desert Game Range. No success had been reported on areas lying outside the range. Sixty permits were issued by Fish and Game officials. Other early reports show that 22 out of a possible 60 elk were killed in Nevada in a special hunt. The preliminary deer kill for the 1957 season was set at 18,920 animals—11,112 in Elko County alone.

State Plans Tourist Research . . .

CARSON CITY—The Nevada Highway Department has started work on bringing up-to-date a motorists' survey made in 1952. Cooperating in the project are the Department of Economic Development, the College of Business Administration at the University of Nevada, and the Bureau of Public Roads. Major portion of the study is planned during the peak travel period from mid-June through mid-September.—*Nevada State Journal*

Navy Reduces Land Grab Demands

LOVELOCK—Congressman Walter Baring announced that the Navy has presented a new plan regarding the controversial northern Nevada land

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THE *Desert* MAGAZINE

PALM DESERT, CALIFORNIA



grab initiated in 1955. Baring said the Navy will seek a 650,000-acre range made up of the Basic Sahwave Range in Pershing County, used by the Navy during World War II, and the Basic Black Rock Desert range in Humboldt County which it is now using. It will not try to take the 654,720-acre Sahwave Extension in Pershing. The Navy earlier eliminated over a million acres of the Black Rock Desert Extension from its plans, and the total subtracted from the original 2,500,000-acre land grab attempt now is over 1,400,000 acres. The Navy wants the land for an air-to-air gunnery range. The Navy told Baring that it will not use the Tonopah Bombing Range that had been offered for its use by the Air Force. — *Lovelock Review-Miner*

Plane Manufacturer Buys Land . . .

SPARKS—North American Aviation was in the process of acquiring approximately 13,000 acres of land in Spanish Springs Valley 10 miles north of Sparks, but company officials denied that they had definite plans for use of the property. The Reno-Sparks area was selected, the company said, because it offers many advantages in developing the firm's activities in some of its research and manufacturing fields.—*Nevada State Journal*

Reno Seeks Control of Smog . . .

RENO—City firemen began special smoke control training as another weekend of smog hit Reno. The city has had smoke control ordinances since last spring, but by year's end no steps had been taken to abate or correct smoke and air pollution. The fire detection branch of the fire department was considered the logical unit to watch for and offer to correct smoke conditions.—*Nevada State Journal*

Centennial Plans Developing . . .

RENO—Publicity plans for silver centennial celebrations all over Nevada during 1959 were outlined and approved at a recent meeting of the statewide centennial committee. Spearheading the drive to focus national attention on the state during 1959—the 100th anniversary of the discovery of silver in the United States—will be Nevada's Department of Economic Development.—*Nevada State Journal*

Museum Receives Coin Press . . .

CARSON CITY—The old coining press which began turning out silver dollars and \$5 gold pieces with the Carson City "CC" mint mark in 1878, will be placed on display at the Nevada State Museum—the converted building which once was the Carson City Mint. The press was used in

Carson City until the Mint ceased coining operations in 1893. In 1899 it was shipped to Philadelphia and in 1943 to San Francisco. It has been idle since 1955. Final resting place of the Comstock Lode relic will be the room where it first went into production.—*Eureka Sentinel*

NEW MEXICO

Living Space Becoming Scarce . . .

SANTA FE—Living space for both people and wildlife is becoming more crowded. Agriculture and industry are utilizing more intensively the land at their disposal—and evidence of this trend is noticeable in New Mexico where the flight of ducks and geese over the Central Flyway has been a trickle compared with the large number of birds seen here in earlier days. Experts blame the scarcity of wildlife on the lack of wetlands—a problem which has become acute in New Mexico. Farm drainage projects have eliminated millions of acres of wetlands in the United States in the past 15 years.—*New Mexican*

New Power Source Revealed . . .

ALBUQUERQUE—The sunshine-rich Southwest was told of the creation of a machine by General Electric engineers that offers a new means of extracting power from the sun. Known as a Thermionic Converter, the machine changes heat directly into electricity, thereby eliminating the heat cycle that involves the production of steam and the turning of a generator. It could be activated by concentrated heat from the sun or by the heat created in an atomic chain reaction. The machine is an application of the principle of thermionic emission, discovered by Thomas A. Edison, that heat will cause electrical particles to be "boiled off" of certain metal surfaces.—*New Mexican*

Drouth Officially Declared Ended

SANTA FE—The U. S. Weather Bureau reported that New Mexico's average rainfall during the past year was 10.61 inches—heaviest since 1941. Average rainfall over the state since record keeping began in 1905 has been 8.68 inches, but until 1957, New Mexico had not received that average for 15 consecutive years. Range conditions are the best in years and cattle and sheep losses this winter have been unusually low.—*New Mexican*

Archeologists Map Road Program

SANTA FE—Members of a National Society for American Archeology subcommittee have suggested that other states study New Mexico's program for salvaging archeological treasures uncovered by road builders. Un-

der the program, the Highway Department, Museum of New Mexico and road contractors work together to excavate sites along future road alignments.—*New Mexican*

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FOR SALE — 1948 Willys Jeep motor. Complete, good condition, \$35. Foote, 1411 Hillside Drive, Glendale, California.

Community Project Fights Erosion

LOS ALAMOS—Instead of burning old Christmas trees, Los Alamos citizens save them for members of the Izaak Walton League, Boy Scouts and Cub Scouts who see to it that the old trees are systematically dumped in places where they can contribute to soil conservation. It's a plan that has been operating in the community for three years now and with successful results. The trees are dumped into arroyos with their trunk-ends facing upstream. Then they are packed down,

thus providing a trap for drifting silt, pebbles and sticks. One large arroyo six feet deep and a mile long has become overgrown with grass and weeds since the plan was begun, silting has practically ceased, and the arroyo has filled up to the stage where in another year or so it will be about leveled over.—*New Mexican*

UTAH

Damsite Plant Nears Completion . . .

GLEN CANYON DAMSITE — A million dollar plant set up by the prime contractor for the construction of Glen Canyon Dam is nearing completion on the west or Utah side of the Colorado River. Included in west rim installations are an administration building, warehouse, riggers loft, electrical and pipe shops, and power generating plant. Need for this type of self-sustaining operation is due to the extreme isolation of the job, more than 100 miles from the nearest center of population.—*Salt Lake Tribune*

Irrigation Increase Called For . . .

SALT LAKE CITY—Irrigation of arid western lands is needed to help save the United States from starvation by 1983, Utah Governor George Clyde declared. Consumption of food will catch up to production within five years, Clyde said, and in another 25 years our population will be upwards of 200,000,000 with food requirements 40 percent above the present level.—*Yuma Sun*

Utah Population Rises Sharply . . .

SALT LAKE CITY—Utah had a population of 851,000 on July 1, 1957, the Bureau of Census estimated—an increase of 23.5 percent or 125,000 people since the last official census in 1950. Most of the increase was the excess of births over deaths, with only an estimated 28,000 new residents moving to Utah from other states. But, this is a significant statistic in lieu of the fact that in the 1920s Utah's net outward migration was 28,000; and in the 1930s 35,000 native sons and daughters left the state. The 1940s saw a reversal of the trend, with a net 14,000 persons in-migrating to Utah.—*Salt Lake Tribune*

Air Space Study Ordered . . .

SALT LAKE CITY—Fearing that air space available for private and commercial flying is a rapidly vanishing national resource, the Air Space Subcommittee of the Salt Lake City Chamber of Commerce has made plans to study the problem. State Director of Aeronautics Harlan W. Bement told the committee that many of the prohibited, restricted, caution or warning

areas have been pushed through the Federal Air Space allocation committees with little or no consideration for the needs of civil aviation.—*Salt Lake Tribune*

Scenic Lake Drive Proposed . . .

OGDEN — The Utah Parks and Recreation Commission is studying the advisability of building a 165-mile Ogden to Salt Lake City scenic tour via Antelope Island, Fremont Island, Little Valley and Golden Spike Monument. The drive is intended to pro-

vide a means by which the tourist attraction potential of the Great Salt Lake can be exploited. The Commission will determine the feasibility of constructing a causeway from Promontory Point to Fremont Island, around the west side of Antelope Island, and back to the mainland near Saltair. "The Great Salt Lake is the biggest tourist attraction Utah has and is also the biggest disappointment to tourists because there is no proper access to the lake," Commission Director C. J. Olsen said.—*Box Elder News*

MINES and MINING

San Francisco . . .

Production of most California minerals declined in 1957, resulting in lower values for the output of metallic and non-metallic minerals, the State Division of Mines reported. Production of fuels also declined, but increases in the price of crude petroleum were sufficient to push the total value of mineral production in the state to a new high level. The 1957 estimate is \$1,631,377,700—a 5 percent increase over the 1956 production yield.

Petroleum production declined for the fourth consecutive year. Estimated production decline was three percent, but value of the product increased 12 percent over the previous year.

California gold production dropped to the lowest point in 12 years when the large underground lode mines in Nevada County terminated operations and sold much of their equipment.

The state's mercury production valuation increased over a million dollars to \$3,520,000. This represented an output of 14,250 flasks.

A sharp decline was noted in tungsten concentrate production values. While the state produced \$13,449,378 worth of tungsten in 1956, the 1957 total was only \$3,463,000.

Phoenix . . .

First official acknowledgment that there is oil in Arizona was made in the annual report of the State Land Commissioner. He stated that there were 11 wells in the state either proven as commercial producers or showing all physical evidence of capability as producers. However, the Commissioner cautioned against over-optimism, pointing out that his department was a "repository of information" and not an agency whose function it is to verify statements of oil and gas exploration firms.—*Phoenix Gazette*

Lee Vining, California . . .

The U. S. Pumice Company plant south of Lee Vining was destroyed by fire in December. Loss was estimated at \$200,000, and some 20 employees were thrown out of work. Also destroyed in the blaze were shipments of pumice products already packaged and ready for shipment. The plant was built in 1946.—*Inyo Register*

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Window Rock, Arizona . . .

Major oil companies bid \$7,191,900 for rights to drill on 167,449 acres of Navajo Reservation land in the January 15 lease sale. Sales in February and March were to follow. A tribal spokesman said the January bids were excellent considering the unproved nature of the tracts. The oil companies agreed to pay the increased 16-2/3 percent royalty plus \$1.25 per acre yearly rental on the tracts. The land was in San Juan County, Utah, and Arizona.—*Salt Lake Tribune*

Washington, D. C. . . .

The Bureau of Mines for the first time gave a monetary valuation for United States uranium production. The Bureau estimated that uranium mined in 1957 was worth \$75,000,000, and the 1956 production value was \$63,000,000. The 1957 production rate was 10,000 tons of uranium oxide compared to 1956's 6000. The total is expected to rise to 15,000 tons or more by 1959.—*Pioche Record*

Ambrosia Lake, New Mexico . . .

Uranium discovery is running about two-and-a-half times faster than required to supply the future annual needs of all mills currently contracted for by the government, Uranium Institute delegates reported. U. S. production may rise 100 percent in the next few years as a result of the Ambrosia Lake development. The area is believed to contain 50,000,000 tons of high grade ore—more than all the known U. S. reserves combined.—*Salt Lake Tribune*

Dixie Valley, Nevada . . .

Dixie Uranium Corporation plans to build a copper mill in White Rock Canyon in the Stillwater Range, about 15 miles north of the Dixie Valley settlement. A company official said an estimated 900,000 tons of copper ore, averaging 1.25 percent copper, has been exposed by preliminary work. The Dixie Uranium Corporation claims are in the same general area where Consolidated Copper Corporation of Ely has done development work. The mill is scheduled to be built this summer.—*Pioche Record*

Taos, New Mexico . . .

An "almost inexhaustible" supply of perlite ore has been discovered by several New Mexico mining companies in the area between Taos and Tres Piedras. Three of the concerns already are operating mines in the district. Great Lakes Carbon Company's perlite division recently announced that it was moving a treating mill from Florence, Colorado, to the nearest railhead to the New Mexico fields at Antonito, Colorado, about 18 miles from the mines. An estimated 1,800,000 tons of ore has been blocked out by one company alone.—*New Mexican*

Bishop, California . . .

American Potash & Chemical Corp. has started production of a series of rubidium and cesium chemicals. This marks the first time rubidium salts have been manufactured in sizeable quantity in the United States, the company announced. Previously, the world supply amounted to only a few hundred pounds per year. The salts are used in the manufacture of specialty glass, photocells used in automatic controls and chemical and electrical processes.—*Inyo Register*

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| "Uranium, Where It Is and How to Find It" by Proctor and Hyatt | 2.50 |
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ANSWERS TO QUIZ

Questions are on page 8

- 1—Smoke Tree.
- 2—Ceremonial purposes.
- 3—Gallup.
- 4—Species of date in Coachella Valley.
- 5—Navajo.
- 6—Bennett-Arcane party.
- 7—Salt Lake City.
- 8—Quartz.
- 9—Polaris.
- 10—Teddy Roosevelt.
- 11—Species of wild hog found in Southern Arizona.
- 12—Lily.
- 13—Bradshaw.
- 14—Aid the conquest of California.
- 15—Lumber industry.
- 16—Colorado.
- 17—Carlsbad Caverns.
- 18—Silver at Tombstone.
- 19—New Mexico.
- 20—Virginia City.

Washington, D. C. . . .

Assistant Attorney General George Cochran Doub declared that government payment as compensation for gold mines shut down by wartime orders was a dangerous precedent. Six gold companies won a 1956 court of claims decision that they are entitled to compensation, but no amounts had been fixed and the government appealed the decision to the Supreme Court. Counsel for the companies involved contended that the shutdown was a "taking" of private property "without just compensation." The High Court's opinion is expected before the end of the term in June. — *Nevada State Journal*

Fruitland, New Mexico . . .

Three major firms are studying the possibility of erecting a large steam generating plant in San Juan County, New Mexico, to be operated by coal from the Navajo Reservation. Involved in the study are the Public Service Co. of New Mexico; Arizona Public Service Co.; and Utah Construction Co. Basis for the proposed power development was the Utah firm's long term lease on coal reserves near Fruitland. Reports show that there is enough coal there to operate a 1,000,000 kilowatt plant for 100 years.—*New Mexican*

Austin, Nevada . . .

A large deposit of antimony, much of it high grade, has been discovered at the White Caps Mine below the 400-foot level. The vein, which is from six to 10 feet wide, runs from the 400-foot level down to 600 feet. A company geologist estimates that at least 2000 tons of the ore is high grade, averaging between 50 and 60 percent. Another 8000 tons assays from 15 to 17 percent. Plans are to handle the ore by the flotation process, and based on previous results the concentrate should run from 60 to 70 percent antimony.—*Pioche Record*

Phoenix . . .

A copper production income loss of approximately \$130,000,000 in 1957 has dealt Arizona its severest economic blow in years, the Arizona Department of Mineral Resources declared. Department figures disclosed that the state produced 510,000 tons of copper last year compared with 505,900 tons in 1956. But despite the fact production was the highest in history in 1957,

depressed market prices dealt the industry a telling blow. The state's 1957 copper income was \$300,900,000, while \$430,021,800 was realized in 1956. Meanwhile, Kennecott Corp. announced it will cut its domestic copper output by 12 percent. The two other big producers, Phelps Dodge and Anaconda, also have cut production.

Washington, D. C.

The amounts of radiation to which the general public and Atomic Energy Commission workers may be exposed in industrial operations has been reduced by two-thirds. Accepting the recommendation of the National Committee of Radiation Protection, the AEC also cut the long-time radiation quantity allowable by two-thirds, although in this case the worker may be exposed to the previously accepted maximum — 15 roentgens — for one year. The order sharply tightens the health and safety restrictions under which nuclear plants may be built to generate peace-time electric power and for other purposes.—*Salt Lake Tribune*

Boron, California . . .

An upsurge in mining exploration of the Mojave Desert has been noted, following recent disclosures by scientists that boron provides a new fuel for the propulsion of missiles and aircraft at tremendous speeds. The Kern

County Land Company has leased acreage in the Kramer mining district near Boron, and other transactions involving potential mining land have been noted. Biggest deal to date was the Kerr-McGee Oil Industries, Inc., lease of 14,885 acres of Southern Pacific land on which it will search for underground boron deposits.—*Boron Enterprise*



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AMATEUR GEM CUTTER

By DR. H. C. DAKE, Editor of The Mineralogist

A home gem cutter asks us a timely and pertinent question:

"Why use a well worn 220 or 320 grit sander in the final sanding of cabochons, when 500 and 600 grit cloths are available?"

The "well worn" sanding cloth appears to have become a more or less accepted standard technique. There are advantages and disadvantages in the use of 500 or 600 grit cloths. For one thing if the 220 or 320

sanding cloth is discarded after it has become well worn, it means a loss. Moreover the finer grit cloths are more costly.

* * *

The next time you see a gardener trimming a clump of bamboo, shake the pieces he has cut off. If one of the bamboo shoots rattles, you probably have found a new kind of opal for your collection.

The extreme hardness of bamboo is due to the large percentage of silica contained in the wood. Tabasheer, a variety of opal occurring in irregular nodules from the size of a pea downward, at times will be found in joints of bamboo which have been damaged or diseased. The most plausible theory to account for the formation of these nodules of opal is that the plant sends an extra supply of silica in solution to repair the injury or fight the weakness caused by disease. The excess silica eventually forms nodules of tabasheer opal.

Tabasheer is transparent to translucent, and when heated many specimens will become phosphorescent. Some specimens are opalescent. It is isotropic and has a very low refractive index, ranging from 1.111 to 1.182 and in this respect is intermediate between water and gaseous bodies. Much of it will, when placed in water for a time, become clear and colorless, like hydroplane opal.

This type of opal has been found in a number of Oriental countries and in South America, but so far as can be learned none has been reported from bamboo growing in the United States. It would appear that this variety of opal exists in domestic bamboo. Who will be the first collector to find a specimen?

* * *

Zircon often has been referred to as the most interesting gem from a scientific viewpoint. Recent work in nuclear geology has shown that zircon is perhaps the oldest of all gem stones.

Heinrich D. Holland of Princeton University gives an age of 600,000,000 years to zircon, as determined by the examination of a suite of gem zircons from Ceylon. Practically all the gem zircons come from Ceylon, so you may regard yours as being among the oldest of all gems.

Zircons long have been known to exhibit a variability of physical properties which could not be explained in terms of composition differences. It appears that practically all zircon, including the gem grades, carry minute amounts of uranium, and therefore are radioactive. In short, the zircon long exposed to neutron bombardment

from within has become structurally altered. This includes slight changes in optical properties, specific gravity, hardness, resistance to solvents, infrared spectrum and X-ray diffraction pattern. All this had long been noted prior to the work by Holland. His findings served to solve the problem of zircon.

The manner in which the age of zircon, or any other gem or mineral is determined by nuclear geology, is similar to the manner in which items like fossil woods and bones are age-tested by the carbon isotope in the latter materials. In the case of zircon, the age is determined through the decay of the uranium, which goes forth at a known and constant rate through eons of time. In both cases, the results are remarkably accurate—to within approximately 10 percent over or under.

* * *

An interesting form of facet cut, well adapted to colored material, is the step brilliant style. Although not as brilliant as the standard brilliant cut, it brings out the color, has a liquid appearance and is especially adapted for amethyst.

The stone is circular and six-sided, with one row of six rectangular-shaped facets above the girdle and a rather large table. Below the girdle are five rows or "steps" of rectangular-shaped facets, six facets to a row. The facets below the girdle should be cut at a steep angle, larger than the critical angle of the material.

* * *

The majority of mineral collectors are familiar with the many examples of replacement of wood by one of the varieties of quartz, including chalcedony, agate, jasper and opal. Some of these often are very colorful and in some instances entire forests are turned to petrified wood in this manner.

But there are a good many other minerals which also have been noted as a replacement of wood, including aragonite, calcite, cinnabar, chalcodite, chalcopyrite, chlorite, dolomite, barite, azurite, malachite, sulphur, pyrite, marcasite, fluorite, gypsum, phosphorite, hematite, limonite, siderite, galena, sphalerite, and talc. How many of these are represented in your collection?

Native copper and various copper sulphides may be included in this list, for in copper mines the wood used in timbering may become heavily impregnated with copper deposited by the circulating mine waters. This, however, is not a true petrification, rather it may be regarded merely as an impregnation.

In Colorado and Utah uranium mines, huge logs may be found heavily loaded with carnotite. These appear to be a petrification, since often the wood structure is completely lacking. Many of these great logs were found in the early-day mine workings, when the carnotite was mined only for its radium and vanadium content, the uranium at that time being wholly waste material. Some of these logs, mined in recent years, yielded great quantities of carnotite, and were valued at thousands of dollars.

* * *

Fine quality emeralds found in the Ural Mountains often sell at wholesale for as high as \$5500 per carat. Rubies of large size, fine color and over 12 carats in weight may approach the per carat value of emerald.

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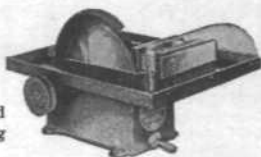


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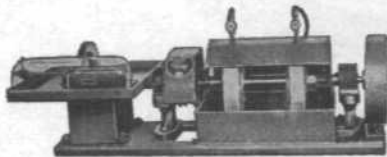
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GEMS AND MINERALS

Gem Shows, Field Trips, Convention Slated for Arizona Mineral Fiesta

Phoenix and Tucson rockhounds will be host at the Arizona Gem and Mineral Fiesta, which will include two shows, four field trips and the annual convention of the Rocky Mountain Federation of Mineralogical Societies.

Here is the Fiesta program:

FEBRUARY 28 TO MARCH 2—Fourth Annual Show of the Tucson Gem and Mineral Society at the Pima County Fairgrounds, 4815 South 6th Avenue. Among the special exhibits planned are the Norman Dawson pegmatite mineral display and fluorescent minerals. Members of the Hughes Rockhound club are scheduled to exhibit their lapidary work and demonstrate how it is made. Admission price is 25 cents per person and children under 12 free. Camping sites are available in Sabino Canyon campground and at Molina Basin on Mt. Lemmon.

MARCH 3—Open date.

MARCH 4—Field trip to collect both mineral specimens and cutting materials. Leave from Pima County Fairground parking lot at 8 a.m.

MARCH 5—Joint Field Trip, Tucson and Phoenix clubs. From Tucson, rockhounds will meet at the Casas Adobes parking lot on Florence Highway, about 10 miles north of downtown Tucson, at 6:30 a.m. From there caravan will proceed to Ray for tour of Kennecott Copper Mine. Those driving in caravan from Phoenix will assemble at the Arizona State Fairgrounds. Guided tours of Ray Mine will begin at 9:30 a.m. with trips scheduled to the Pearl Handle Mine to collect copper ores and native silver. Visitors should bring a picnic lunch.

MARCH 6—Field Trip led by Phoenix club from Arizona State Fairgrounds.

MARCH 7-9—1958 Phoenix Gem and Mineral Show, sponsored by the Mineralogical Society of Arizona, Arizona Lapidary Club and Maricopa Lapidary Society, at the State Fairgrounds, 19th Avenue and McDowell St. Annual Convention of the Rocky Mountain Federation will be held in conjunction with this show. Theme of the Phoenix Show is "Gems and Minerals of the Ancients," and on display will be the Crown of the Andes, created in 1599 of gold and emeralds. Arrangements have been made for trailerites and campers to occupy low cost sites.

MARCH 10—Field Trip from Phoenix State Fairgrounds.

PASADENA GEM SHOW ON MARCH 1-2

Plans for the Pasadena, California, Lapidary Society's Third Annual Tournament of Gems recently were announced. The admission-free event is scheduled for the weekend of March 1-2 and show hours are noon to 10 p.m. on the 1st, and 10 a.m. to 6 p.m. on the 2nd. The Gem Tournament will be housed in the William D. Davies Memorial Building, North Lake and Mountain Curve, Farnsworth Park, Altadena.

Planned exhibits are working lapidary, gem stones, jewelry making and movies. A snack bar will serve refreshments.

The Mineral and Gem Society of Castro Valley plans its annual show for March 1-2 at the San Lorenzo, California, High School. Show hours are 10 a.m. to 10 p.m. on the 1st, and 10 a.m. to 6 p.m. on the 2nd.

Approximately 100 cases of gem and mineral exhibits are scheduled to be displayed at the March 6-16 California Hobby Show, Shrine Auditorium, Jefferson near Figueroa, Los Angeles. Various Southern California clubs will participate in the show, and part of the gem and mineral exhibit will be a large working lapidary area, plus many special displays. — *Boulder Buster Press*

March 15-16 are the dates of the 4th Annual North Seattle, Washington, Lapidary and Mineral Club's Gem Show. It will be held at the Sky Room at Ray's Boat House, 6049 Seaview Avenue, from 10 a.m. to 10 p.m. on the 15th, and 10 a.m. to 8 p.m. on the 16th.

The 10th Annual Sweet Home, Oregon, Rock and Mineral Show is set for March 15-16. The affair, sponsored by the Sweet Home Rock and Mineral Society, takes place at the high school gymnasium on Long Street.

The Veterans Memorial Building at Grand Avenue and Mill Street, will be the scene of the annual San Luis Obispo, California, Gem and Mineral Society's annual show. Show dates are March 15-16.

The Santa Monica, California, Gemological Society plans to hold its annual show on April 12-13 at the Santa Monica Recreation Club House.

The Ninth Annual Eugene, Oregon, Mineral Club show is slated for April 12-13 at the Lane County Fairgrounds.

The admission-free Palomar Gem and Mineral Club show is scheduled to be held at the Escondido, California, Central School Auditorium, on April 12-13.

Theme of the April 19-20 Orange Coast, California, Mineral and Lapidary show is "Artistry in Gems." The event takes place at the Orange County Fairgrounds.

The Women's Gymnasium on the campus of San Jose (California) State College again will be the locale of the San Jose Lapidary Society's annual show on April 19-20. The gym is at 7th and San Carlos streets.

The Wichita, Kansas, Gem and Mineral Society's Fifth Annual Spring Show is scheduled for April 26-27, and will be held at the Kansas National Guard Armory, 3535 W. Douglas St.

The Owyhee Gem and Mineral Society of Caldwell, Idaho, has scheduled its annual Rock Show for April 26-27.

Never use an oil solution in the saw vat when cutting rhodochrosite. Water should be used as a lubricant, for oil absorbs into the material and dulls the luster.—Fred and Edythe Olson in the *Gemrock*

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Societies Name New Officers . . .

New officers of the Mojave Desert Gem and Mineral Society of Barstow, California, are: Dan Ryan, president; Dorothy Klein, vice president; Peggy Robinson, secretary-treasurer; Vincent Wood, Bill Robinson, Alta Langworthy, Jack Klein and Al Blackwell, directors.—*Desert Diggin's*

Mrs. Marguerite Bunch recently was elected president of the Long Beach Mineral and Gem Society. Serving with her will be Harold Lucas, vice president; Mrs. Nadine Greenup, secretary; Carl Brenner, treasurer; and Pete Eagle, Charles Curtis and Bill Jordon, directors.—*Mineral News*

The Pomona, California, Rockhounds enters its second year of activity with these new officers: Joel Bowser, president; Vic Allen, vice president; Laura Maxwell, secretary; and Joel Ridley, treasurer. Clubs and individuals wishing to correspond with this new organization should write to Mrs. Maxwell at 721 E. Hawthorne, Ontario, California.

Dan Brock, president, and Ida Coon, vice president, will guide the activities of the Compton, California, Gem and Mineral Club during the new year. Also named to office were Ardis Mahan, recording secretary; Beverly Beck, corresponding secretary; Al Kiltz, treasurer; Chet Evans, librarian; Bernice Anderson, historian; and George Mahan, John Orman, Harry Chaffee, Lydia Wilson, Jim Hatton and Jim Carnahan, finance committee directors.—*Rockhounds Call*

The Ventura, California, Gem and Mineral Society named these new officers: Willard H. Evans, president; Gertrude Temple, first vice president; Ed Turner, second vice president; Dorothy Schiernbach, recording secretary; Birdie Raines, membership secretary; Catalina Sattler, treasurer; and Myrtle Kirk, bulletin editor.—*Rockhound Rambling*

New officers of the San Francisco Gem and Mineral Society are: Jack Donahue, president; Cyrus Dam, vice president; Eleanor Learned, treasurer; Frances Carlson, recording secretary; Lucille Rettig, corresponding secretary; Glen Vonier, librarian; Ted Bhend, curator; Lee Anderson, hostess; and Beulah Grapes, Charles Bateman and Oscar Merwin, directors.—*The Mineralog*

The Tacoma, Washington, Agate Club elected the following new officers: Fay Marsh, president; Harry McCamant, vice president; Dick Brass, secretary; Fred Stewart, treasurer; and Ed Burke, director.—*Puget Sounder*

These new officers were elected by the Seales Lake Gem and Mineral Society of Trona, California: Carl Hickie, president; O. N. Cole, vice president; Margie Sutton, recording secretary; Shila Wardall, corresponding secretary; Joe Lampert, treasurer; Orvie Ross, lapidary chairman; Dottie Brisaud, federation director; and M. L. Leonard, Glen Schafer, Laurence Darnell and A. J. Tankersly, directors.

New officers of the South Gate, California, Mineral and Lapidary Club are Ivan Howery, president; Russell Strohmeyer, vice president; Erma Robinson, treasurer; Lucile Truitt, recording secretary; Phyllis Sweet, corresponding secretary; Ruthellen Griggs, librarian; Martha Fowler, historian; and Bill Mulheren and Sam Walters, directors.—*Boulder Buster Press*

Gail Willis was elected president of the Rawlins, Wyoming, Rockhounds. Serving with him will be J. G. Sundberg, vice president; Ned Cross, secretary-treasurer; Duke Parrish, corresponding secretary; George Staples, director-at-large; Byron Sundberg, historian.

The following new officers were elected by the Indiana Geology and Gem Society of Indianapolis: Richard H. Castle, president; Fred A. Deboulle, vice president; Mrs. Gladys E. Grandy, secretary; Fred S. Smith, treasurer; and Miss Florence Geisler, historian.—*Geolo-Gem*



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Edwin Porter is the recently elected president of the Lockheed Employees Recreation Club's Rockcrafters of Burbank, California. Serving with him will be Tom Whyte, vice president; Carol Pavick, corresponding secretary; Lottie Cave, recording secretary, and M. H. Johnson, treasurer.—*Psephite*

Lester Sunvison was elected head of the San Antonio, Texas, Rock and Lapidary Society. Also named to office were James Aldridge, vice president; Marion Sunvison, secretary; Bruno Lamm, treasurer; and Angeline Nove, Calvin Mansell and Jeanne Bell, directors.

New officers of the 402-member Oregon Agate and Mineral Society of Portland are: J. Ted Hedin, president; Minnie Gilbertson, vice president; Grace McLain, secretary; George Sperling, treasurer; and Ray McGrew, Hank Heikkola and Lon Hancock, directors.—*Oregon Rockhound*

Leo Connolly will head the Santa Rosa, California, Redwood Gem and Mineral Society for the coming club year. Also elected were Allan Smith, vice president; Virginia Cox, secretary; Lotta Jean Miller, treasurer; and Larry Guaspari and Clyde Sewell, auditors.—*Rockhound's Bark*

New officers of the Fresno, California, Gem and Mineral Society are: Cliff Ahman, president; George Plitt, first vice president; Rev. Shipp, second vice president; Juanita Kovar, secretary; Marvin Grove, treasurer; Ocie Randall, federation director; and Bernard Anderson, Ernest Ison, Corinne Laine and Art Lambert, directors.—*Chips*

NEVADA GEM CLUB ASSAILS VANDALISM

Members of the Austin, Nevada, Rock and Gem Club are considering petitioning the state for permission to be deputized, without pay, to assist in enforcing the laws against vandalism to collecting areas.

The Nevada group charges that valuable deposits have been destroyed at Broken Hills, Gabbs and other areas. "Greedy commercial collectors" were blamed for the depredations.—*Reese River Reveille*

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Chromium plating actually is made up of three different metals. The surface to be plated is first given a copper coating to help hold the subsequent nickel plating which provides the essential protection against corrosion. The chromium plating goes on last. Although the chromium gives a very high luster, actually it is porous, containing many microscopic cracks. The nickel plating underneath is to seal off these holes so air and corrosives cannot get through to the base metal and cause it to corrode. — Sacramento, California, Mineral Society's Matrix

Aerial color photographs are being used for prospecting by Hycon Aerial Surveys of Pasadena, California. Subtle shading often occurs in mineral deposits, as seen from the air.—Mineralog

RULES FOR HANDLING MINERAL SPECIMENS

Here are three very simple rules to remember when examining a mineral collection:

1. Never handle a specimen without the owner's permission. Usually it readily will be granted when the owner sees that you are considerate enough to request permission.

2. When permission has been granted, hold the specimen by its edges and never run your fingers over the polished, prismatic or pyramidal faces. Not only do fingers leave an oily smear, dust on the finger tips is an effective abrasive causing irreparable damage.

3. Use extreme care to avoid dropping a specimen or knocking it against some object. When you pick up a specimen by its edges with the fingers of one hand, hold the other hand immediately beneath it to form a cup to catch the specimen should it drop.

Nothing is so dear to the mineral enthusiast as his collection of specimens. While many of the pieces may have an appreciable intrinsic value, it is not by any means the market price alone which endears them to their owner. To the serious collector, each specimen has two background stories: the story of the mineral itself, what it is, how it was formed, its beauty, etc.; and the story of its procurement—perhaps it was collected under adverse or even dangerous conditions, or it may be the gift of an esteemed friend. Beauty alone is sufficient to engender the affection most collectors have for prized specimens.—Stevens T. Norvell in the Chicago Rocks and Minerals Society's *Pick and Dop Stick*

United States coins are made of alloys so that the metal is harder and the coins will last longer. Dimes, quarters and half dollars are 90 percent silver and 10 percent copper. The nickel is only 25 percent nickel and 75 percent copper. Cents are 95 percent copper with the other five percent tin and zinc.—*S.M.S. Matrix*

A technique for breaking open geodes into two nearly equal halves without destroying the crystal within, is to gently tap the stone on a rock or concrete surface, turning it as it is being tapped, much as a breakfast egg is broken. The geode will break in half and the inside will remain in perfect condition. — Mineralogical Society of Southern California *Bulletin*

"SALTED" DRIVEWAY LURES NON-HOBBYISTS

Borrowing a page from the old-time miners who "salted" mines to make them appear more valuable to prospective buyers, Everett Traylor of the Central Iowa Mineral Society "salts" his gravel driveway. But his purpose is to get non-rockhounds interested in the hobby.

Traylor sprinkles chunks of bright pyrite in his driveway and when guests drop by inevitably they remark about the glitter in his drive.

Of course this calls for an explanation and while the conversation centers on rocks, Traylor leads the prospective converts into his home to view his mineral collection.—*Sooner Rockologist*

PROPERTIES OF GOOD TUMBLER ARE LISTED

A functional tumbler should have the following features:

Built in such a manner that it can be taken completely apart for proper cleaning. Lined to keep the stones from fracturing, and to reduce noise.

A door through which the stones can be inspected daily.

Less than 16-inches in diameter.

Six sides and of simple construction. The more complicated it is, the more difficult it will be to maintain and clean.

The drum should be loaded to about two-thirds of capacity. A third of this bulk should be the stones to be tumbled, and the remaining two-thirds a suitable carrier such as small fragments of flint, solid agate and grit.

Enough water to make a "soupy" mixture should be added. The material should be inspected daily, and not tumbled longer than it takes to remove all scratches from the rock surfaces.

Cleanliness is the byword of tumbling. Tumble the stones in soapy water for 24 hours between each stage of the operation to assure the removal of grit.

Patience is as important as cleanliness. You must have plenty of it for good results. It will take from 30 to 45 days to turn out a good batch of polished stones.—Verdugo Hills, California, Gem and Mineral Society's *Rockhound News and Views*

PIONEER LAPIDARY FIRM BECOMES INCORPORATED

Recently incorporated under the laws of California was Covington Lapidary Engineering, Inc., long-established Redlands, California, lapidary equipment manufacturing firm.

Officers of the new corporation are Vaden Covington, president; Mike Toepfer, vice president for production; Donald Moore, vice president for sales; Dorothy Covington, secretary-treasurer; Tena Vinke, assistant secretary-treasurer; and Orrin Hillburg, controller.

Vaden Covington designed and built his first lapidary equipment in 1923. A master machinist and design engineer by trade, for two decades he operated the lapidary equipment business as part of his diversified engineering operation. In 1951 interest in the gem stone polishing and jewelry making hobby had grown to such an extent that Covington sold out the other departments of his business and concentrated on lapidary equipment manufacturing.

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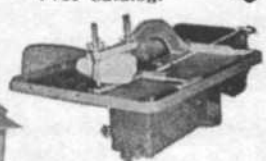
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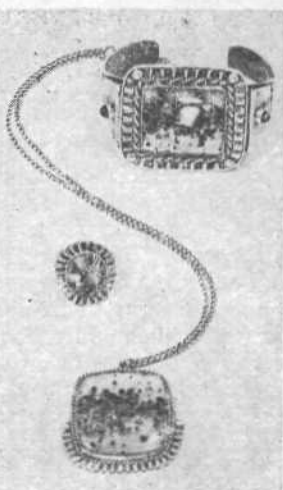
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By RANDALL HENDERSON

PLEASE TURN BACK and take another look at this month's cover picture—the High Desert in Spring. This picture was not taken in Joshua Tree National Monument, but it could have been, for it is typical of the high desert flora in Joshua Tree.

Some of my neighbors here in Coachella Valley want to slash through such a gorgeous setting as this with a new high-speed highway—the Blue Cut Road they call it. They want the road built by Uncle Sam with your tax money and mine. They've been busy passing resolutions and writing letters to congressmen and getting engineer's estimates.

You can visualize what would happen if that road should be built—roadsides littered with cans and bottles, and since there are some private holdings within the Monument, perhaps a few cold beer and hotdog shacks along the way.

There is no pressing need for an additional road into the Joshua Tree National Monument. Four roads—three of them paved—now give access to the park from the northeast, northwest, southeast and southwest, and over 320,000 visitors found their way into this colorful natural playground in 1957. A fifth approach road is now being sought—at a cost of \$1,500,000 to the federal treasury—because it might bring some additional business to local merchants.

It is noteworthy that many of those pressing for the new road also are in favor of opening the National Monument to mining, and there are some among them who would abolish the Monument entirely.

From an economic standpoint, at a time when Uncle Sam is going deeper into debt to finance a space-age program of national security, how can anyone justify a \$1,500,000 federal investment in a project not sound enough to be borne by the local taxpayers who would be the only beneficiaries?

But there is another factor more important to many of us than merely the economic aspect of the proposal. My associates in the Desert Protective Council are opposing the construction of this road because we believe there are some places on this earth where the beauty of the landscape as God created it should be safe-guarded against exploitation by those whose only interest is self-interest—and we think Joshua Tree National Monument is one of those places.

* * *

March and April—these are the best months of the year for camping on the desert. There are always some wildflowers in blossom, even in the years of little rainfall, for cacti and chuparosa and some of the other perennials store up extra moisture for just such an emergency, and

there are a million clean sandy places where bedrolls may be spread in complete comfort and security.

If you really want to get acquainted with folks, go camping with them. Primitive living brings out the best in some people, and the worst in others.

Some campers spend hours preparing elaborate meals with soup and salad and all the frills of a full course dinner—and then more hours washing pots and pans and dishes. I happen to be one of those indolent campers who would rather eat a cheese sandwich and a handful of dates than fuss around with a campstove and a lot of dirty dishes. But each one to his own taste.

I have a couple of friends who cook hot camp dinners—and yet have reduced the chore to complete simplicity. They scoop a little cavity in the sand, build a fire in it, put the coffee pot and a couple of opened cans of food on the coals—a meat and a vegetable—and then eat their dinner with paper plates and cups. When they are through they burn the plates, toss the cans in their litterbag to be taken home for the garbage collector. It takes but 30 minutes—and they have an extra hour and a half to explore the desert.

Now that's my idea of camping—but I am not going to argue with you about it because you probably have a formula that suits you better—and after all, the glory of a camping trip on the desert is in the opportunity to get away from that pestiferous tribe of human beings who are everlastingly trying to get you to do as they do and think as they think.

* * *

With members of the Sierra Club as my companions I have spent two leisurely weekends recently hiking in the desert canyons. Nearly everywhere I found the ocotillos shaggy with a new crop of leaves and millions of tiny sprouts poking their heads through the sand. It is too early yet to predict a year of lavish wildflower blossom; more rain is needed to bring the wildflower show to colorful maturity—but there are always an abundance of seed in the ground and if they do not germinate and blossom this season then we'll await another year. And we'll not be impatient about it, because it is good to have some things in this world that do not operate with mechanical precision—things that are completely beyond the control of the chambers of commerce and the booster clubs and sales managers. Such agencies serve their purposes no doubt, but somehow—either because of them or in spite of them—the competitive struggle between men and between nations seems to be creating increasing pressures and tensions. I find it good tonic to get out occasionally into the desert wilderness, close to the soil and the wind and the wildlings for there life goes serenely along despite the follies of the human race.

BOOKS of the SOUTHWEST

SHE FOUND HEALTH AND PEACE ON THE MOJAVE

In 1932 June LeMert Paxton went to the high desert of Yucca Valley, California, in search for health of body and mind. That she found it is evidenced by the fact that she still lives there happily. Poetry and philosophy combine to make her story *My Life on the Mojave* of particular interest to those who may feel the same need.

She has made her personal experiences and those of her neighbors in that quiet health giving valley, real and moving. Friends and relatives came from near and far to learn why she remained in that then remote desert area. They too succumbed to the lure of blue skies, dry invigorating air, kinship with the animal, bird and plant life of the high desert.

In those early days, neighbors were few and life included many of the hardships of those who pioneered in the very wide open spaces of the west. Today the desert is no longer the unknown and somewhat feared land that it used to be. People are flocking to the Southern California deserts. They have brought roads, water and electricity so that life is much easier than it was in those early '30s when the author first found her health and happiness there.

Some of the simple charm is lost from primitive areas when humans take over virgin land in large numbers. But her valley has not too many yet and as she says, "the influx has not

changed the desert as such." Skies, wind and sand still bring peace, sunsets and sunrises are still wonders to behold, and the little desert animals go about their life business as though the restless human family did not exist.

June LeMert Paxton's life story leaves one with the thought that the peace, simplicity, health and philosophy she has found are truly pearls of great price in this harried world of today.

Published by Vantage Press, New York City; 168 pp.; \$3.00.

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AUTHORITATIVE TEXT ON PLANT CLASSIFICATION

Lyman Benson, professor of botany and head of that department at Pomona College, has written a taxonomy textbook, *Plant Classification*, that not only will be welcomed in the classroom, but also in the homes of those gardeners who are interested in obtaining a sound foundation of knowledge in botany. On these pages the miracle that is the living plant is broken down, described, diagramed and analyzed.

The late Jerry Laudermilk, a frequent contributor to *Desert Magazine*, supplies the principal plant dissections and meticulously drawn detailed illustrations for the handsome volume. These and other drawings along with numerous photographs in the book are truly outstanding.

The terrifying terminology of botany is reduced to understanding without the sacrifice of scientific accuracy, and no prerequisite study is needed by the amateur botanist to make frequent use of this book.

Especially interesting and valuable to the layman are chapters on the preparation and preservation of plant specimens; evolution; historical development of classification systems; the classification of natural vegetations; and the floras of North America.

Plant Classification is the result of over 25 years of classroom and field research and study by Dr. Benson who previously wrote two books on botany of particular interest to *Desert* readers: *The Cacti of Arizona* (University of Arizona Press, 1950), and *The Trees and Shrubs of the Southwestern Deserts* (University of New Mexico Press, 1954).

Published by D. C. Heath and Company, Boston. Approximately 150 pages of illustrations; glossary and index; 688 pages; \$9.00.

HISTORY OF CARLSBAD CAVERNS INDIANS

A small booklet, *The Indians of Carlsbad Caverns National Park*, tells of the first inhabitants of the rugged Guadalupe Mountains area in southeastern New Mexico. Piecing together the little known physical evidence of Indian cultures in the Caverns vicinity, and historical data on Southwestern Early Man, Carlsbad Basketmakers, Pueblo Indians, Mescalero Apaches, Comanches and Kiowas, author Jack R. Williams briefly outlines the Red Man's story at Carlsbad. How far into the underground Caverns' passages these early visitors penetrated is not known — but in all likelihood it was not a great distance because of the primitive means of illumination (torches) available.

Published by the author; 40 pages; paper cover; halftone and line drawing illustrations; 50 cents.

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